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Section I. METHODS OF EMPLOYING TANKS WITH INFANTRY

1. INTRODUCTION

The following notes on German tactics in the Tunisian campaign have been compiled by the commanding officer of a U. S. armored infantry battalion. They deal with the German use of tanks with infantry in the attack, and with lessons learned and methods practiced by our troops. It should not be inferred, however, that either the German or American methods described here are standard. They were adapted to meet specific situations. As always, local factors and the decisions of individual commanders must be taken into account.

2. OPERATION 1

On one occasion we were defending some rolling country, with our front lines forming an L, our left flank anchored on a river, and our right flank anchored on a mountain.

¹ In line 2, page 44 of *Intelligence Bulletin* No. 8, for April 1943, "30-mm" (a typographical error) should read "50-mm." Also, it has been established that the No. 13 Company of the German infantry (and Panzer Grenadier) Regiment has six 75-mm infantry howitzers, as well as two 150-mm infantry howitzers. Therefore, "6" should be substituted for "9" in line 18, page 45 of the same issue.

The Germans, after several days of intermittent artillery fire, attacked the eastern part of our defensive line with wave after wave of infantry. When this did not succeed, they dive-bombed and strafed a secondary hill which was holding up their attack. This did not break our position, so they attacked with tanks (see fig. 1).

Twelve tanks began working between our left flank and the river, six tanks began working toward the bend in our lines, and 20 tanks began moving toward our right flank between the right of C Company and the mountain. The group of 20 divided itself into a group of 12, which continued to move ahead, and a group of eight, which worked around the left of C Company. All the tank movements were very slow and cautious.

I believe that the 12 tanks working between our left flank and the river succeeded in infiltrating to some extent. Earlier in the day, when elements of B Company were counterattacking to restore a part of A Company's position, they had occasion to fire at a haystack and out wobbled a Pz. Kw. 6. This tank was well behind A Company's lines. Actually, the group of 12 did no great damage; however, they threatened our flank, later causing us to withdraw A and B Companies.

The six tanks which attacked the bend in our lines apparently never got onto our position. Their mission seemed to be more one of diversion, to attract our attention. However, these tanks may have been stopped from coming onto our position when we placed the fire of our 75-mm assault gun on them.

The 20 tanks which approached our right flank, later splitting into groups of 8 and 12, moved at a good speed until they were within several miles of our position. The 12 tanks which approached our right flank moved cautiously to within 1,000 yards of our position, and then halted in line, facing us. Our artillery fired on them, and an artillery duel then took place. (These tanks, as events later proved, were endeavoring to decoy our tanks into the flanking fire of concealed and camouflaged 88-mm

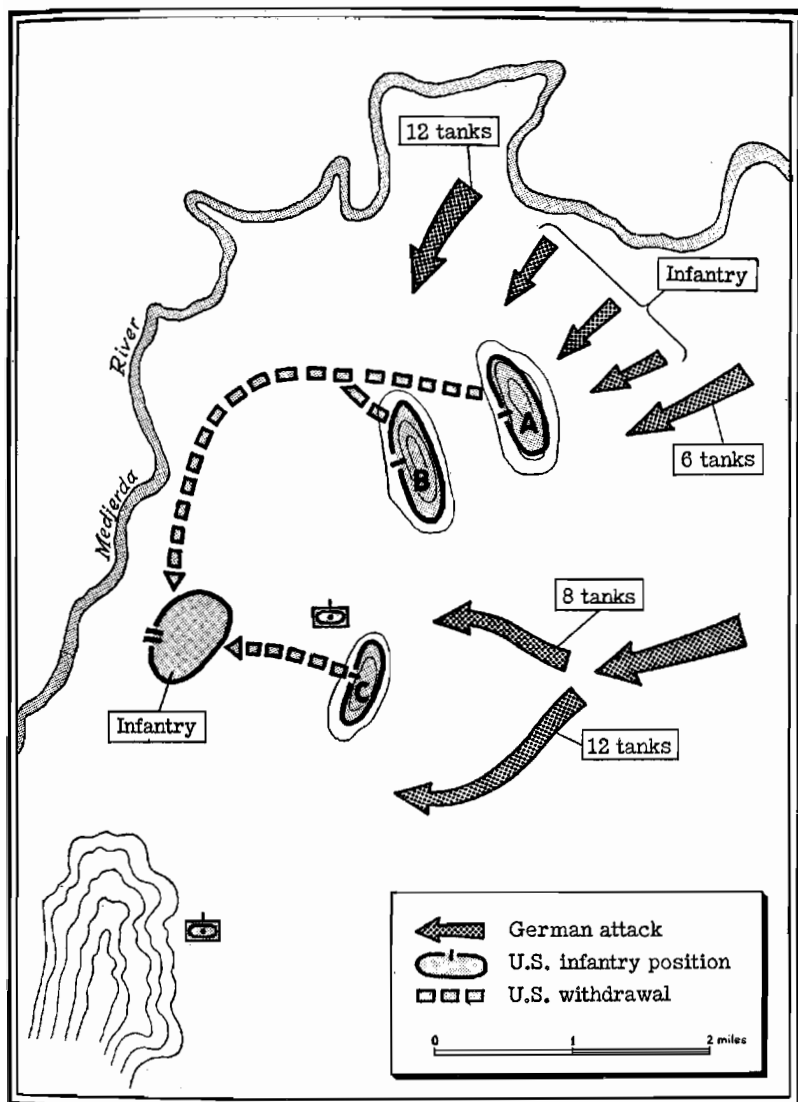


Figure 1.

antitank guns.) Our 37-mm antitank guns and an assault gun fired on the German tanks, and they returned the fire. They made no effort to advance nearer than 1,000 yards. They had a certain amount of defilade, but many of the tanks were fully exposed. The eight tanks moving toward the left of C Company advanced very cleverly through draws and depressions until they finally penetrated our position and overran the artillery and infantry positions, forcing C Company to withdraw. These eight enemy tanks occupied the ground, but did not pursue the infantry. In the action thus far, approximately six German tanks were knocked out.

At this time our medium and light tanks came to our rescue around both sides of the mountain on our right flank, and immediately attacked the 10 remaining tanks out of the 12 which had stopped 1,000 yards from the right flank of our position (see fig. 2). These tanks were bunched closely together in line and facing our oncoming tanks. The German tanks immediately withdrew about 1,000 yards to a defiladed position. As our tanks advanced, they came under fire of camouflaged 88-mm guns to their right flank. To the best of my knowledge, about six of our medium tanks and two light tanks were knocked out, with no loss to the German tanks. The German tanks stayed well behind cover and fired only a few times. The battle ended at nightfall, and our tanks withdrew.

The remainder of the eight tanks which overran our artillery and occupied C Company's position remained in that position and took a distinctly minor part in the battle, firing only a few times.

* * * * *

In this operation (see fig. 1) the enemy attacked with his infantry and was successful in getting some of his infantry onto A Company's position. In the rear of the position, A Company had half-track vehicles. These were immediately used to launch a counterattack; the .30-caliber gun mounted on the

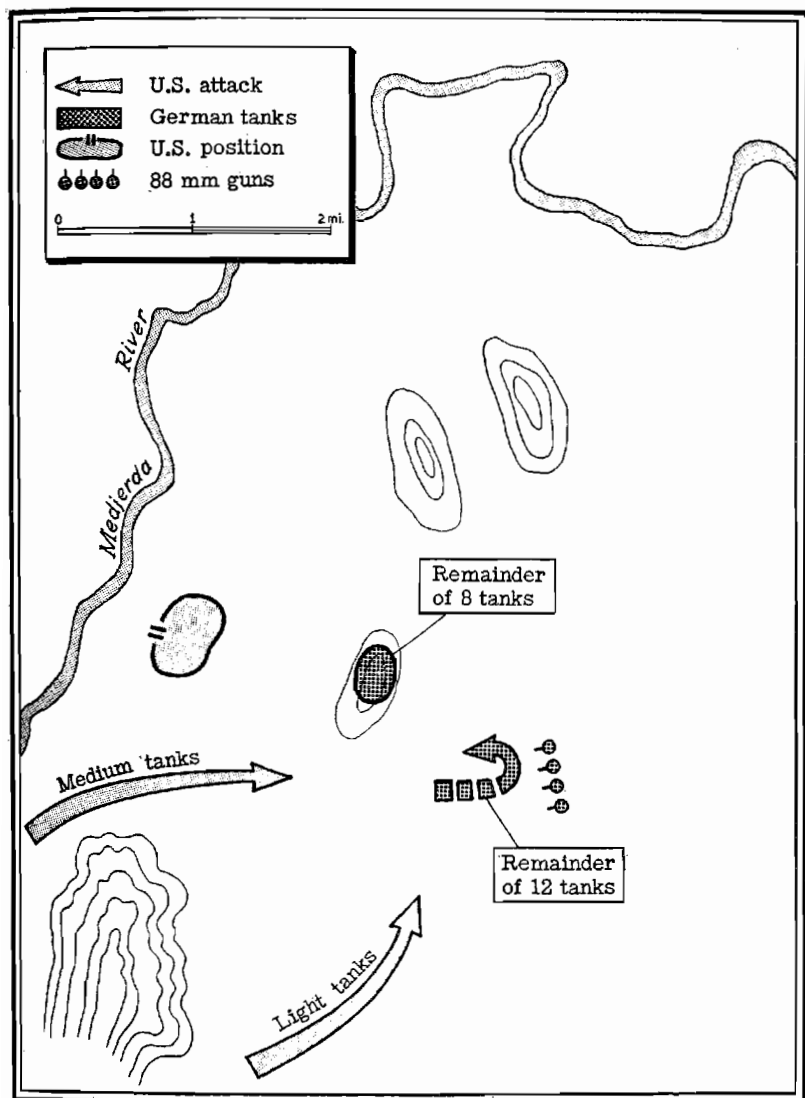


Figure 2.

half-track provided fire, and the track itself was employed to run over the enemy's personnel and his light machine-gun positions. The use of these half-tracks in a counterattack to regain a position proved highly effective.

3. OPERATION 2a

After several days of very heavy rains, movement across country was extremely difficult. Vehicles of every type were in constant danger of bogging down in the mud. We occupied a mountain (see fig. 3). At our left was a river, then a broad open plain, then a highway, then another plain, and then a large mountain range.

About 15 German tanks attacked, moving down the highway in column, with not more than 10 yards between tanks. They moved at a speed of only 2 or 3 miles per hour, and the German infantry kept up with them. The Germans were cautious. They seemingly fired at every little bush or terrain feature which might possibly conceal a gun, although there were no American or British troops in that particular area between the river and the mountain range. On the right flank of the enemy tanks, between the highway and the mountain range, the German infantry advanced in a deployed formation, covering the entire space between the highway and the mountain range. The German infantry continued to advance at the walk, and finally disappeared out of sight, in the direction of Medjez-el-Bab. The tanks continued to advance down the highway, but when they came to a junction with a road leading to the river, four German tanks moved down that road to the river bridge. There they halted on the road, and fired on some of our medium tanks, which were in defilade across the river. Before withdrawing, the German tanks apparently fired until they were out of ammunition. So far as I know, no damage was done to their tanks or to ours. The range from our defensive position to the

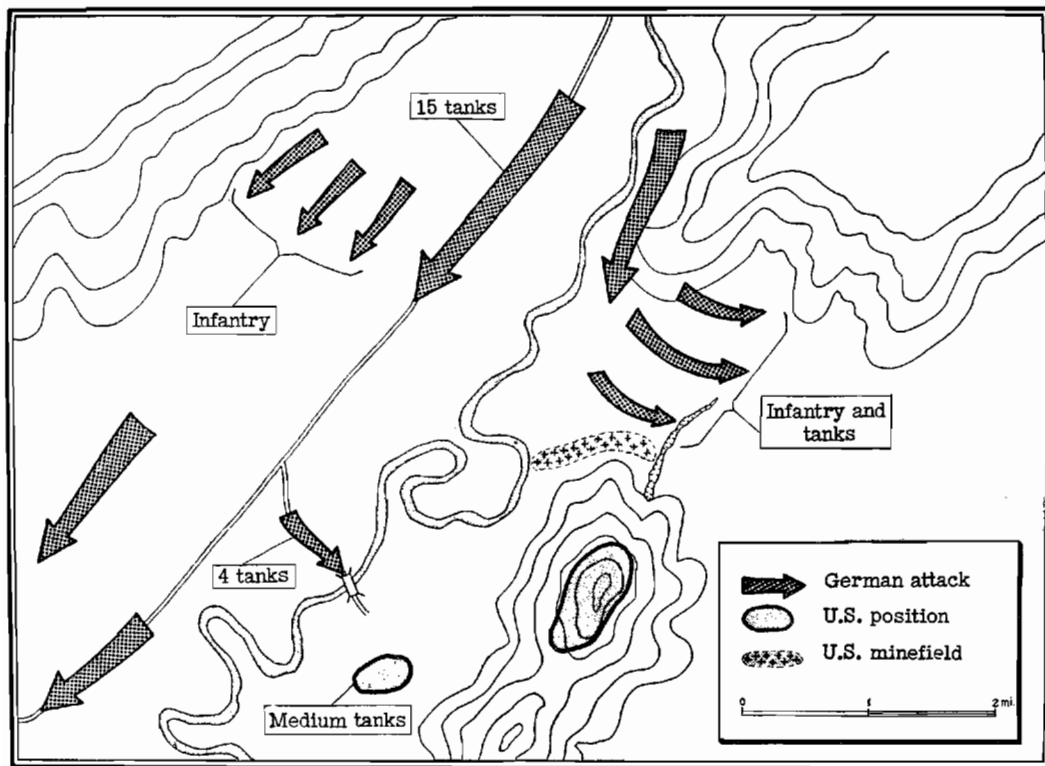


Figure 3.

highway was too great for antitank fire. The range from the bridge to our tanks was well within effective range for fire.

4. OPERATION 2b

In front of our defensive position, we had a minefield extending from the river to a ravine (see fig. 3). Out in front of that was a large hill mass. Between the river and the hill mass, the Germans moved out to attack our position. They attacked in many waves of infantry: each wave was a line of section columns or platoon columns. Dispersed through this deployed infantry formation were 10 to 15 German Pz. Kw. 3's and Pz. Kw. 4's, advancing with the infantry and firing directly on our position. The ground was extremely wet, and the tanks moved very slowly. In fact, at times they scarcely seemed to be moving at all. They approached to positions near the minefield, where they stopped and shelled us for a while. Then they turned to the left, moved along in front of the minefield, and disappeared to our right flank. Because of the emergency of the situation, we had laid part of the minefield by daylight, and it is quite possible the Germans knew its exact location. The infantry advanced with the tanks until the former was only a short distance from the minefield. At this point the infantry was broken by our fire, and moved into the hills, disappearing to our right flank.

Because of the threat on the other side of the river (indicated in Operation 2a) to envelop our left flank, we were then ordered to withdraw to new defensive positions. By nightfall we were no longer in contact with the enemy.

5. OPERATION 3

Defensive positions in this battle were held by the French. The Germans launched a frontal attack on Rebaou (see fig. 4) with infantry supported by direct fire from tanks moving with

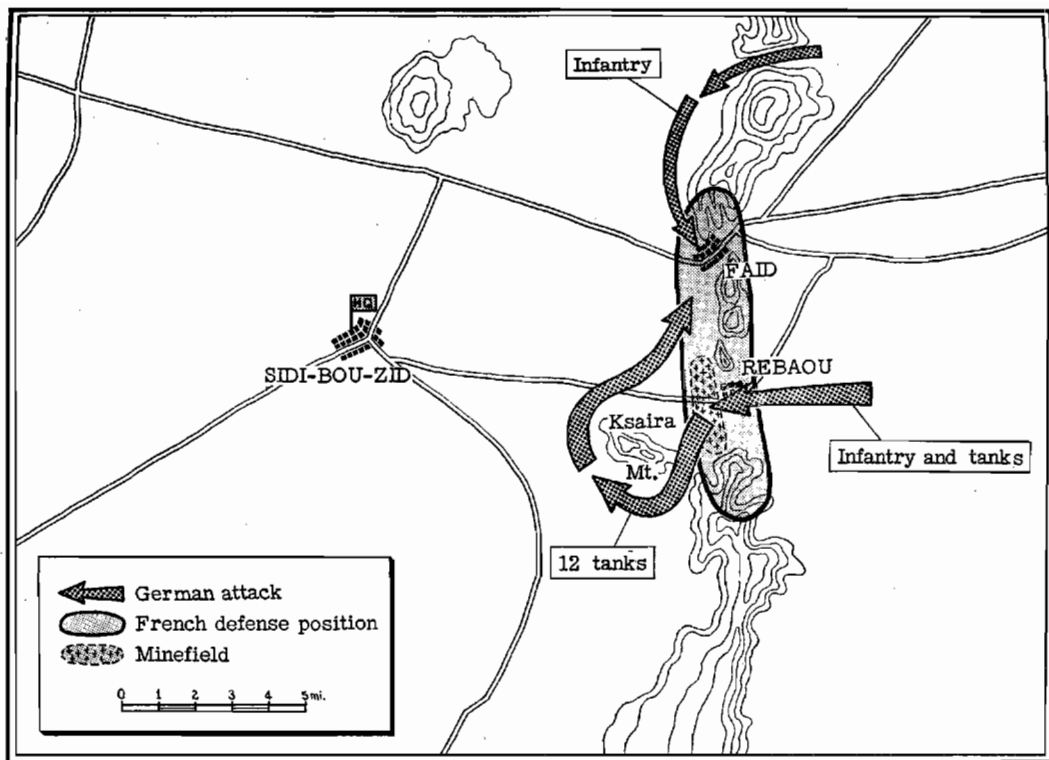


Figure 4.

the infantry. Several Pz. Kw. 6's were used in this attack. At the same time the Germans attacked Faïd from the north and west with infantry. Rabaou was taken during the morning. The tanks broke through the minefield and moved as shown in figure 4. After rounding Ksaira Mountain, they made no attempt to attack the village of Sidi-Bou-Zid, which was the French headquarters, but headed directly for the main pass through the mountains at Faïd. Their movement across the large open space from Ksaira to Faïd was quite slow. When the German tanks were within 1,000 to 2,000 yards of the village of Faïd, they began to shell the village and the pass. After about 30 minutes of this, they moved into the village. The defensive positions on either side of the pass were thus completely surrounded.

6. OPERATION 4

We were occupying hill "C" (see fig. 5) and attacked hill "A" with infantry only. The attack was successful on "A" and a number of prisoners were taken. Although we had only light machine guns, rifles, and light mortars when we occupied "A," we immediately directed our fire upon hill "B." After a few minutes, a white flag was raised on "B," and enemy troops began pouring out to surrender. Just as they reached the foot of "B," two German tanks moved out of a shallow gully and covered us on hill "A." Surrender of the enemy on "B" stopped. The tanks then forced us to withdraw, and we lost hill "A" and "B" and the prisoners on "B." The tanks fired machine guns and 47-mm high explosive at us. Since we had no antitank weapons at hand at the time, we were forced to give up hill "C."

In other words, the German tactics had consisted of hiding several tanks in a defensive position so that a counterattack could be launched. The counterattack was successful because when we reached the position, we were carrying only machine guns, rifles,

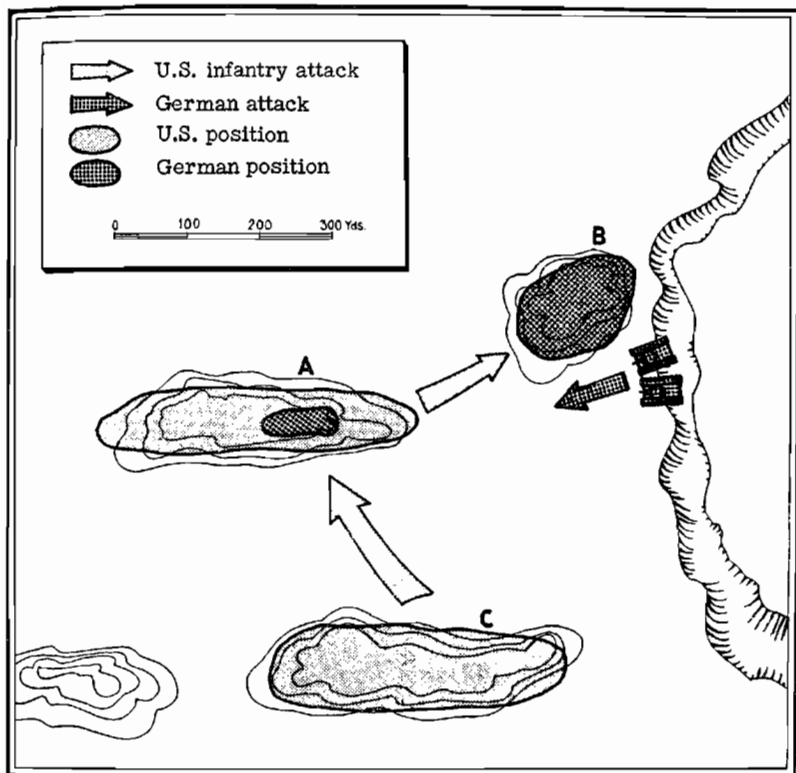


Figure 5.

and mortars. As a result, the Germans had armor and weapon superiority.

Another U. S. military observer, commenting on this action, points out that a plan of attack should provide for aggressive defense measures to hold captured ground which is certain to be counterattacked, and that these measures should automatically include aggressive anti-tank defense.

7. OPERATION 5

We occupied a defensive position in the sand dunes, cactus patch, and nose of Hamra Mountain (see fig. 6). The enemy occupied Lessouda Mountain, Sidi-Bou-Zid, and the mountain range east and south of Sidi-Bou-Zid. The country was open and flat. The distance from Hamra to Lessouda was about 10 miles.

Early in the morning six German tanks moved out to a position (see point X in fig. 6) several miles in front of our position. The tanks were closely grouped. We placed artillery fire on them, and they moved just outside our range. They maneuvered all day in the vicinity of this position, moving laterally back and forth across our front, but not coming any nearer to our own position. At 1500 the number of tanks increased to about 12. They still continued to group themselves closely and to move about on our front, attracting our attention but not advancing on our position. Shortly after 1500 a large column of 20 to 30 tanks was discovered moving to our left flank. These tanks were moving very slowly so as not to raise any dust. They were taking advantage of all possible defilade, and in general were moving on the lowest ground. Movement must have been under way for a number of hours. Shortly after this, a column of about 15 tanks was noticed moving slowly to our right flank; it was taking advantage of defilade and whatever cactus cover was available. No infantry or accompanying guns came up with these tanks. It was purely a tank attack. Until darkness, a battle took place on our position between the enemy tanks and our tank-destroyer guns (we luckily had several with us), our 37-mm guns, and some of our medium tanks. Our infantry was withdrawn when the battle seemed to be developing into a tank versus tank affair. In this action we lost two tanks, and the enemy lost six. We were ordered to a new defensive position; this movement began at nightfall.

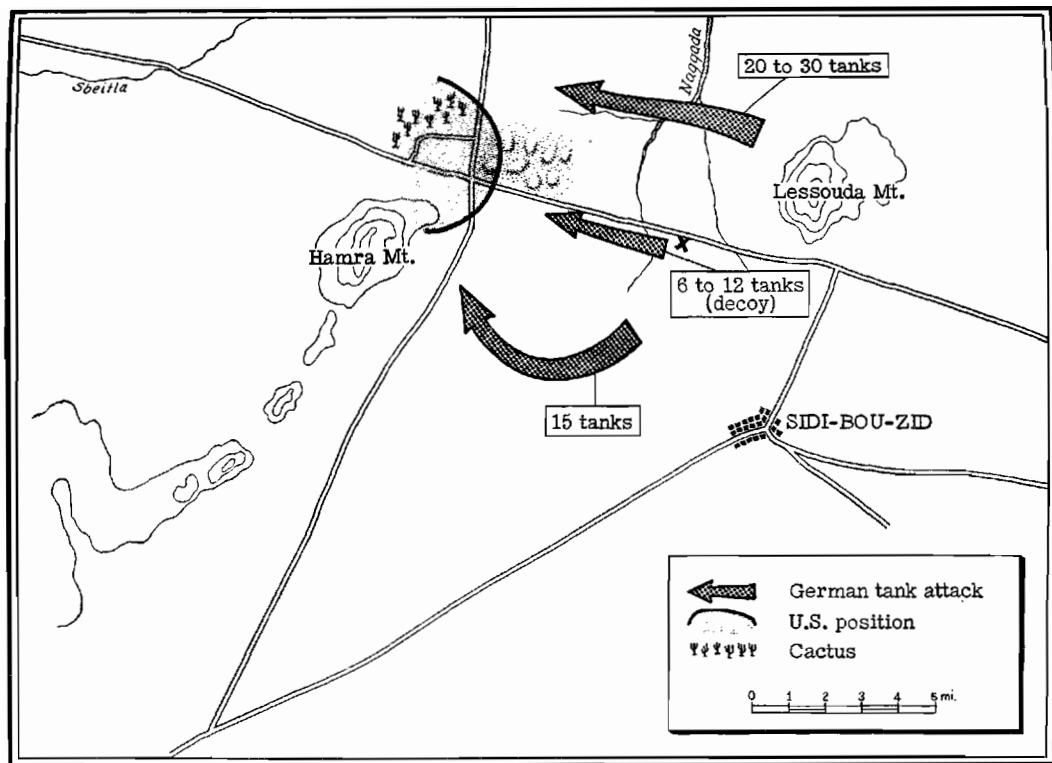


Figure 6.

Shortly after the withdrawal started, the 10 or 12 tanks that had been moving about on our front all day began to attack straight down the highway. Firing erratically, they approached our new defensive position, causing a great deal of confusion and disorganization until they were finally driven off by the direct fire of our artillery.

It is believed that the Germans attempted to use the tanks at our front to attract our attention in order to sneak the other tanks around both flanks in a double envelopment. Then, after dark, these tanks were ready to launch a night attack, using the highway as an axis.

8. OPERATION 6

One of our companies, occupying high ground, was attacked and driven from its position. Behind the position we had three light tanks which had been assigned to the battalion, as well as three light tanks from a light tank platoon which had been attached. These six tanks were immediately used in a counter-attack. We succeeded in driving the enemy from the high ground and in reoccupying it.

9. OPERATION 7

The day after Operation 4 took place (see fig. 5), the attack was repeated. This time our infantry was accompanied by light tanks. At first our infantry was pinned down by small-arms fire while moving from hill "C" to hill "A." The tanks were immediately moved forward to bring machine-gun and 37-mm high explosive fire on hill "A" at point-blank range. Our infantry moved immediately behind these tanks, successfully occupied hill "A," and captured a number of prisoners.

An attack was then launched on hill "B." The entrance to the dugout on hill "B" faced the right end of hill "A." Our

light tanks began to pour 37-mm high explosive into the entrance of the trench, and the enemy immediately surrendered.

10. OPERATION 8

Several unsuccessful attempts had been made to take a small hill with infantry alone. Finally, two tank destroyers (M10) and several light tanks were moved into a position from which the hill was almost within point-blank range. They began to shell the hill with a terrific amount of direct fire. This was most successful, and our infantry promptly occupied the hill.

11. TANKS WITH INFANTRY

In my battalion we had one light tank with each infantry company. The purpose of this tank was twofold:

First, it was to be with the infantry company at all times—especially to sit behind it on a defensive position and remain in readiness to counterattack to restore the position. In an attack, enemy infantry is traveling light when it reaches and takes a position, generally arriving with only rifles, light machine guns, and light mortars, and with few antitank weapons or none at all. Thus if an armored vehicle or tank is available for use in a counterattack against the enemy, it will almost always succeed in forcing him from the position. We did this in Operation 6 by using tanks, and in Operation 7 by using half-tracks. The Germans had successfully used the same method against us in Operation 4.

Second, a tank accompanying infantry in the attack, firing directly with machine-gun fire and especially high explosive, is paralyzing in its effect upon the enemy. Also, infantry can follow it closely. It has been found that this fire, directed point-blank at enemy positions, is exceedingly difficult to live through. We employed it successfully in Operations 7 and 8. Without this

direct fire, the hill would probably not have been taken. The Germans once employed this direct fire against us, but it failed—partly because we were holding a strong defensive position at the time. However, they have employed it successfully against other units, and seem to be skillful at coordinating this direct fire with their infantry advance. In the Gafsa-El Guettar region they used it successfully against infantry elements. The Germans moved their tanks with their infantry, placed direct fire on the American position, and forced our men to keep down until the German infantry and tanks were on our position.

In an effort to escape the effect of this type of direct fire, as well as observed artillery fire, there was a tendency in Tunisia to defend the forward slope of a hill at night and to defend only the reverse slope during daytime. The Germans are very good at this business of reverse-slope defense, and our units at the front simply adopted the method. It works in the following manner:

A few automatic weapons are placed on the forward slope of the hill to make the attacker fight his way to the top. A large part of the defending force is dug-in on the reverse slope of the hill with machine guns sighted to fire on the crest. When the attacker arrives at the crest, these guns are immediately fired as he exposes himself on the skyline. The bulk of the infantry on the reverse slope is immediately used in a counterattack against the attacker, who usually is in a poor state of organization when he arrives at the top of the hill. Counterattacks may be delivered over the crest of the hill, or else around the sides of the hill in a double envelopment.

The Germans have used this form of defense on many occasions. An outstanding example was the battle of Longstop Hill (east of Medjez-el-Bab). An officer who took part in this action tells me that there were four ridge lines, which the Germans were occupying. The first three were defended rather lightly, and the last ridge was the main defensive position. There were

enough automatic weapons dispersed on the slopes of the forward ridges to make the attackers fight their way up. As soon as the top of the first ridge had been taken, all guns on the second ridge were laid and fired on the crest line of the first ridge. Thus the attackers had to fight their way down the slope of the first ridge to get to the forward slope of the second ridge, and so on, until the last ridge line was reached. When the crest line of the last ridge had been reached, it was found that the Germans had the bulk of their force on the reverse slope, where their machine guns were sighted for grazing fire toward the crest. As the attackers came over this crest, they came under the grazing fire of these machine guns. They were counterattacked by the German infantry occupying positions on the slope; as a result, our attack was beaten off, and we sustained heavy losses. Reverse-slope defense involves making a number of difficult decisions: the best line on the reverse slope to defend from, where to place the automatic weapons on the forward slope, when to counterattack, and whether to counterattack over the top of the hill or around the side of the hill in an envelopment.

The whole purpose of reverse-slope defense is to shield oneself from the direct fire of assault guns and tanks and against observed artillery fire. In fact, it seems to be the only satisfactory defense against this type of attack. Naturally, the employment of antitank guns on reverse slopes and secondary ridges is a vital part of the reverse-slope defense.

Section II. COMBAT IN HIGH MOUNTAINS, SNOW, AND EXTREME COLD

Official German military doctrine dealing with the tactics to be used in high mountains and under conditions of extreme cold is summarized in this section. The information has been extracted from German Army documents.

1. IN HIGH MOUNTAINS

a. Command

The German Army emphasizes that the skill and leadership of junior commanders are severely tested in mountain warfare inasmuch as forces will generally be split into relatively small groups. The efficient handling of these groups demands a high standard of training and discipline. Columns will often be separated by wide areas of difficult country, and, since lateral communication is often very difficult, command of deployed units becomes much more complicated than during operations over ordinary terrain.

b. Movement

(1) The Germans recognize that the limited number of trails and the tendency of men and animals to become exhausted have a decisive influence on movement.

(2) Units are divided into numerous marching groups, none of which is larger than a reinforced company, a gun battery, or an engineer platoon. The Germans maintain that in this way the danger of ambush can be overcome, and each group can fight independently.

(3) Engineers are well forward (with protective patrols) to help repair roads.

(4) Aware that small enemy forces can hold up the advance of a whole column, the Germans consider it necessary to have single guns well forward. They also regard flank protection as very important; for this reason stationary, as well as mobile, patrols are used.

(5) When unusually steep stretches are encountered, infantry troops [probably reserves] move forward and disperse themselves among the pack animals of the artillery, for the purpose of helping the artillery in an emergency.

(6) Pack artillery moves at march pace ($2\frac{1}{2}$ miles per hour) and after marches of over 6 hours, 3 to 4 hours rest is necessary. Short halts are considered useless, because men and animals must be able to unload.

(7) The Germans stipulate that for every 325 yards ascent or 550 yards descent, 1 hour should be added to

the time which would be estimated necessary to cover the same map distance on ordinary terrain.

c. Supplies

(1) The supply echelon may include some, or all, of the following means of transport: motor vehicles (with preference given to vehicles of from 1 to 2 tons), horse- and mule-drawn vehicles, rope railways, pack animals, and manpower. Transport aviation may also be used if the terrain permits.

(2) The Germans have found that a cart drawn by two small horses can be highly practical in mountainous country.

(3) The German Army stresses that supplies must initially be packed in containers suitable for pack transport, in order to avoid a waste of time in repacking en route.

(4) Man loads vary from 45 to 75 pounds.

(5) In general, supplies are organized into valley columns and mountain columns. Valley columns carry supplies for 2 days, and mountain columns carry supplies for 1 to 2 days.

d. Weapons

(1) Light machine guns are used more often than heavy machine guns.

(2) Mortars are used extensively, and often replace light artillery.

(3) Antitank guns and heavy machine guns are mostly used for covering road blocks.

(4) It is a German principle that effectiveness of artillery fire from valleys depends on the careful selection of observation posts, and on efficient communication between these posts and single gun positions. "It cannot be overemphasized," the Germans say, "how difficult it is for artillery to leave the roads or level ground."

(5) In general, the emphasis is on the lighter weapons.

e. Reconnaissance

Apart from normal reconnaissance tasks, it is considered important to mark trails to show: which areas can be observed by the opposition, how far pack transport can be used, where trails need improving, and where troops must assume the responsibility of carrying everything themselves.

f. Signals

(1) The Germans use radio as the primary means of communication, because of the great difficulty of laying lines.

(2) Motorcycles and bicycles are used in the valleys.

(3) The Germans take into account the fact that lateral communication is often very difficult and sometimes impossible.

g. Engineers

German engineers in mountain units are assigned the following tasks in addition to their normal duties:

bridging swift mountain streams, clearing mule trails, and constructing rope and cable railways.

h. Attack Tactics

(1) Attacks across mountains usually have the subsidiary missions of protecting the flanks of the main attack (usually made through a valley), working around the rear of the opposition, or providing flanking fire for the main attack.

(2) It is a German axiom that the early possession of commanding heights is essential to the success of forces moving along the valleys.

(3) Generally, the German main attack follows the line of valleys, which alone gives a certain freedom of movement to a strong force and the necessary supply echelons.

(4) German troops attacking uphill are always on guard against falling rocks and possible landslides caused by supporting artillery fire.

(5) The Germans have found that attacking downhill, while easier for forward troops, often presents tactical and ballistic problems for the artillery.

i. Defense Tactics

(1) German officers are reminded that defense of any large area of mountainous country ties down a very considerable number of troops.

(2) The Germans believe that if a crest is to be defended, it is better to have only the outpost position

on the crest or forward slope and to have the main line of resistance, with heavy weapons, on the reverse slope.

j. Training

(1) In general, the basic training of German mountain troops is that of normal infantry units. Specialized training comes later.

(2) Battalion officers are trained mountain guides, and must pass tests annually.

(3) All guides are required to be expert at map reading and the use of altimeters, at judging weather conditions, at recognizing dangers peculiar to mountainous country, and at overcoming great terrain difficulties in order to reach observation posts.

(4) The necessity for noiseless movement is emphasized, inasmuch as under certain conditions sound may travel farther in mountainous terrain than in open country.

(5) It is stressed that ammunition must be used economically.

(6) Since troops are likely to be separated from their units for a number of days, the Germans require a high standard of discipline and physical toughness.

2. IN SNOW AND EXTREME COLD

a. Movement

(1) *Marching.*—The Germans consider it important that clothing should not be too warm. Weapons are covered. Advance guards are strong, and heavy weap-

ons and artillery are well forward. Antitank weapons are distributed along the column. Ski and sleigh troops may be sent out to guard the flanks. Plenty of towing ropes are loaded on motor transport, and horse-drawn and hand-drawn sleighs are considered very useful for transporting weapons and supplies.

(2) *Halts*.—In contrast with normal German practice in mountains, halts are short when the temperature is very low. Motor transport vehicles are placed radiator to radiator. Snow is cleared under the vehicles, and some sort of foundation is provided for the wheels.

(3) *Restrictions*.—The Germans limit the use of the tanks and motorized units when the temperature is lower than 5 degrees above zero (Fahrenheit). Motorcycles are considered useless when the snow is more than 8 inches deep. Snow is regarded as a tank obstacle when it is higher than the ground clearance of the tank's belly. German tractors can negotiate snow up to 1 foot in depth; at 1 foot the use of snow-clearing apparatus becomes necessary. At very low temperatures, gasoline consumption is reckoned at five times the normal rate. Snow deeper than 1 foot 4 inches is considered impassable for pack animals.

b. Weapons

The German Army warns its mountain troops that:

(1) Distances are usually underestimated in clear weather and overestimated in fog and mist.

(2) At low temperatures weapons often fire short at first.

(3) Ammunition expenditure tends to rise very sharply when visibility is bad.

c. Reconnaissance

When German reconnaissance units are operating in mountains under conditions of extreme cold, extra tasks include obtaining information about the depth of snow, the load capacity of ice surfaces, and the danger of landslides and avalanches.

Regarding direction signs, the Germans warn that the opposition will use every possible form of deception, and that great care must be taken in interpreting the direction of trails correctly. It is acknowledged that there is an ever-present danger of being diverted into an ambush or a strongly defended position.

The usual German methods of indicating trails are to mark trees and rocks, erect poles, and set up flags on staffs. Stakes are used to denote the shoulders of roads.

d. Signals

It is noted that a greater length of time is needed for laying communication wire under mountain conditions, and that cold and dampness lowers the efficiency of a great deal of signal equipment.

e. Attack Tactics

(1) Because of the difficulty of movement, assembly areas are nearer the opposition than is normally the case.

(2) Limited objectives are the rule.

(3) Because deployment is so difficult, it is often delayed until contact has been made.

(4) Combined frontal and flank attacks are used wherever possible.

(5) Commanding positions are considered of added value and are occupied by mobile troops as quickly as possible.

(6) Decentralization of weapons is authorized so that units can deal with surprise attacks without delay.

(7) Attacks are often made by ski troops.

f. Defense Tactics

German mountain troops are taught that under conditions of snow and extreme cold:

(1) Obstacles take much longer to build.

(2) Strong outposts are highly valuable because they force the opposition to undertake an early deployment.

(3) The usefulness of snow as protection against fire is often overestimated.

(4) Heavy snowfalls render mines useless.

Section III. ANTITANK TACTICS AS SEEN BY U. S. COMBAT PERSONNEL

The following comments on German antitank tactics in Tunisia are from members of a U. S. armored division. It is believed that these descriptions of the enemy in action will be of interest and value to junior officers and enlisted men.

1. A BATTALION COMMANDER

German antitank gunnery in Tunisia made our reconnaissance a particularly tough job. The Germans dragged up their big 88-mm guns and dropped them in position behind their tanks. Usually a crew dug its gun in a hole 12 by 12 by 6 feet deep, virtually covering up the shield and exposing only the barrel of the gun. We found these guns especially hard to locate. (In fact, they can break up your whole show if you don't pick them up in time.) Apparently the Germans used mats to hide the muzzle blast. Once we hunted three days for a gun, which was within 1,000 yards of us, and then found it only by spotting the personnel approaching the gun position.

Generally, the Germans tried to suck us into an antitank-gun trap. Their light tanks baited us in by playing around just outside effective range. When we started after them, they turned

tail and drew us within range of their 88's. First, they opened up on us with their guns in depth. Then, when we tried to flank them, we found ourselves under fire of carefully concealed guns at a shorter range. We've just got to learn to pick off those guns before closing in.

When the Germans went into position, they hid their guns and tanks in anything available, including Arab huts. Then they dressed their personnel in Arab garb so that these men could go to and from their positions. Usually the Germans tried to draw us within a 1,200-yard range. They frequently used machine guns to range themselves in, and we ducked their shells by watching that machine-gun fire. When they were moving, they shot at anything that looked suspicious, and generally knocked down every structure in sight. (We thought this a good idea, and followed suit.) Sometimes the Germans got the range with high-burst smoke shells. But when we saw three of those in a line, we took off. We had discovered that it was the high sign for the Stukas.

One evening several Mark¹ IV's followed a British tank column right up to their tank park until a 25-pounder battery spotted the strangers on the tail of the column and blew them off the road.

Later the lieutenant colonel was asked a question about the use of tanks in action. He said:

The Germans towed their 88's behind their tanks. (Maybe they brought up 75's, or both; I know they brought up 88's.) They towed them up and dug in. Their tanks came out and attracted our attention, and, until we caught on to their tricks, the tanks led us right between the guns, got behind us, and gave us the works. We learned not to form the habit of going for

¹ A British designation that Americans often use instead of the German Pz. Kw. (*Panzer Kampfwagen*).

the first 88's which shot at us. There were likely to be several much closer up. The first 88 that barked and the first tank were generally bait, and we had to refrain from plunging at them. When they staged any night attack or late evening attack, and neither side pressed the fight, the Germans put their 88's in No-Man's-Land way ahead of where their tank positions were. In one instance their tanks were within 1,000 yards of a pass, but their guns were 4,000 yards ahead of the pass.

Four 88's, if dug in, are a match for any tank company. They are the most wonderful things to camouflage I have ever seen. They are very close to the ground.² You can watch the fire coming in; little dust swirls give the guns away and show how low they are. The projectiles just skim over the ground. The pit is 12 by 12 by 6. The gun looks like a pencil or black spot. The shield is level with the piece, and all you can really see is the tube. In Tunisia the crews, dressed in Arab clothes, did everything they could to camouflage positions. Our artillery found that it could get them out with high-explosive. When a tank gun could find them, it could get them out, too.

Over 1,200 yards there was no use in worrying about the 88. Its fire bounced off our medium tanks at that range. Under 1,200 yards, we took care to watch out. His gunnery stank at long ranges. In general, I felt that our men were better.

We soon learned to pick off the leader of a tank group. After a while we were able to tell which was the leader, because of certain differences in behavior. When we got one of their commanders, the other tanks stopped and seemed sort of dazed.

One day I had an interesting experience. Ten German tanks were sitting on a ridge, shooting at half-tracks. They had been at my left rear and I hadn't seen them. There were Mark IVs, some Mark IIIs, and a Mark VI. They stopped on the crest and

² See *Intelligence Bulletin* No. 9, page 59, for sketch of an 88-mm AA/AT gun, dug-in.

did a right flank and started to get in column. The Germans sometimes put a Mark VI in the middle and the others on the flanks—always making one flank heavier than the other, however. We picked out one and hit him, and he stopped. We burned the next one. Then the Mark VI, which I had thought was a Mark IV, came close. The Mark VI tanks are hard to identify, but have a more or less square outline with an offset box on the side.³ We bounced four rounds off the front of him. Then another tank came up right along side of him, and it was easy to move a hair's breadth to the left and pick him off. (We had no AP, so I know an HE will crack a Mark IV. You should shoot low, and it will ricochet and kill them in the turret, or damage them so they will be of no use.) We had to move out of it when the Stukas appeared.

Whenever Stukas came along, the German tanks sent up colored flares to identify themselves. Then, with three smoke shells, they marked a target for the Stukas.

The Germans used a lot of high-burst ranging. I noticed that the artillery was likely to fire a round, apparently getting the range from the map, and get one overhead and then drop right down on us. It was comparatively easy to dodge an 88, because they started with machine-gun bullets. When they began hitting us, we moved suddenly to the right or left to avoid the fire.

2. A COMPANY COMMANDER

When you fire on the German tanks, they play a lot of tricks. When we fired on them in Tunisia, they stopped, leading us to think that we had knocked them out. When we turned around on something else—wham, they opened up on us!

It would really be worth your time over in the States to shoot at your men at night with tracer bullets. In Tunisia the Ger-

³ For a description of the Pz. Kw. 6, with sketches, see *Intelligence Bulletin* No. 10, pp. 19-23.

mans used tracers and sometimes raised hell with our troops. Tracers throw a hell of a scare into you, anyhow; each one looks as though it's headed straight for you. The Germans are cracker-jacks at night fighting, I might add.

I'm also concerned about another question of tactics, which is probably none of my business. We had always been taught that the Germans attacked at dawn or in the early morning light. Actually, just to confuse us, they were even more apt to hit us at dusk, when there was only half an hour of light left in the sky. Then they threw everything they had at us—including their star shells and Very lights—in an attempt to put us on the run.

3. A TANK COMMANDER

I think that a battalion of infantry trained to operate at night could slip into a German tank park and really raise hell. One night, after we had been burned out of our tank during action, we made our way to within 30 yards of a parked tank, thinking it was an Arab hut. The Germans don't seem to worry so much about security at night.

Section IV. 75-MM ASSAULT ARTILLERY

The German 75-mm assault gun is a weapon comparable to the U. S. 75-mm and 105-mm self-propelled guns. The gun and mount weigh about 20 tons. The maximum speed across country is about 7 miles per hour; on roads, about 22 miles per hour. It can average about 15 miles per hour. On normal roads its radius of action is about 100 miles; across country, about 50 miles. To move an assault-gun battery ¹ 100 kilometers (about 65 miles) requires 4,000 liters (about 1,050 gallons) of gasoline. The range of the 75-mm short-barreled tank gun, with which this weapon was originally equipped, is about 6,000 yards.

Apparently there are now three types of German assault guns in service: the short-barreled 75-mm tank gun, with a bore 23.5 calibers in length; the long-barreled 75-mm tank gun, with a bore 43 calibers in length; and an intermediate gun which seems to be a 75-mm gun with a bore 30 calibers in length. It seems probable that the long-barreled 75, which is the prin-

¹ For organization details, see page 34.

cipal armament of the new Pz. Kw. 4 tank, may be primarily an antitank weapon, while the intermediate gun will take the place of the old short-barreled 75 as a close-support weapon.

A 1940 German document states that the assault gun "is not to be used for antitank purposes, and will only engage enemy tanks in self-defense or where the anti-tank guns cannot deal with them." However, a 1942 German document states that "the assault gun may be used successfully against armored vehicles and light and medium tanks." This apparent contradiction can perhaps be explained by the fact that prior to the invasion of Russia in 1941, this weapon had been used in limited numbers. Experience in Russia may have shown that it could be used successfully against tanks, although Russian sources refer to it as an infantry support weapon, essentially. Perhaps a more logical explanation lies in two German technical developments since 1940, namely: hollow-charge ammunition, which is designed to achieve good armor-piercing performance at relatively low muzzle velocities, and the reported replacement of the short-barreled, low-velocity 75-mm with the long-barreled, high-velocity 75-mm gun on some of the newer models.

The following information about German assault artillery is a condensation of a recent article in "Red Star," the official Soviet Army publication, and deals with only one of the three types—the short-barreled 75-mm.

The Germans make extensive use of self-propelled guns as assault artillery. Their most important mission is to destroy the opposition's antitank and heavy infantry weapons. The German self-propelled mount under discussion is a Pz. Kw. 3 chassis armed with a short-barreled 75-mm gun, which has a semiautomatic breech block. The gun's traverse is limited. The armor on the front and sides of the vehicle has thicknesses of 50 mm and 30 mm, respectively. The top and rear of the gun carriage is open. The speed of the self-propelled gun is about 31 miles per hour, and its range is about 84 miles. The gun's initial muzzle velocity is about 1,389 feet per second. The gun carries 56 rounds. The ammunition is fixed and consists of the following types: high-explosive, armor-piercing, and smoke.

The gun crew consists of a gun commander, a gunner, a loader, and a driver. Two self-propelled guns make up a platoon. The platoon commander's vehicle is equipped with signal flags, rocket pistols, a two-way radio, and a speaking tube for communication between the commander and his gunner and driver. The radius of the radio is about $2\frac{1}{2}$ miles when the vehicle is at the halt, and from $1\frac{1}{4}$ to a little less than 2 miles when it is moving. The second vehicle in the platoon has only a receiving set and signal flags.

There are three platoons in a battery, as well as a separate gun for the battery commander, three armored vehicles with supplies, and an ordinary supply truck. In a battalion (the largest unit) there is a headquarters, a headquarters battery, and three firing batteries. The battalion commander has a gun under his own personal command. According to the German table of organization, the battalion of assault guns is an independent unit and is part of the GHQ artillery pool. The assault artillery battalion can be placed under the command of an infantry commander or tank unit commander, but not under an officer of lower rank than regimental commander. It is important to note that if an assault-gun battery has the necessary supplies to permit it to

take care of itself, it may assume an independent role, apart from that of the battalion.

Assault batteries, which are assigned a limited number of targets, have the mission of supporting the attacks of the infantry, and of destroying the opposition's heavy infantry weapons and strong points disclosed during the course of the attack. In supporting tank attacks, the self-propelled artillery assumes some of the normal tasks of the heavier tanks, including the destruction of antitank guns.

The assault artillery never serves as antitank artillery in an attack; only in self-defense does it open fire at short range, shooting armor-piercing shells against tanks. Its shell has almost no effect against heavy tanks.

The battery is part of the combat echelon, and marches ahead of the trains. All seven guns and three armored supply vehicles are in this echelon. In deploying for battle the guns come first, moving abreast toward the front and ready for instant action. The guns of the platoon commanders are on the flanks. The battery commander is stationed to the rear, in a position which is dictated by the type of firing and the terrain. Behind him, the supply vehicles move by bounds from one protected position to another.

If a position lacks cover, these vehicles follow at a considerable distance, maintaining radio communication with the rest of the battery.

In carrying out its special task of facilitating an infantry breakthrough into the rear of the opposition's defenses, the assault battery may follow one of two methods of maneuver: the battery may take part in the initial assault, or it may be held in reserve and not committed until the hostile dispositions have been discovered. In all instances the battery cooperates closely with the supported infantry battalion or company.

Assault guns use direct fire. To achieve surprise, they move forward stealthily. In supporting an infantry attack under

heavy enemy fire, assault guns halt briefly to fire on targets which offer the greatest danger to the infantry. The assault guns fire a few times, and then disappear to take part in the battle from other positions. When an assault artillery battalion is attached to an infantry division cooperating with Panzer units in an attack, the battalion's primary mission is to destroy the hostile antitank defenses. If the battalion is supporting tanks in a breakthrough, its batteries seek positions permitting good observation. In other cases each battery moves into the attack after the first wave of tanks, and as soon as the latter encounters opposition, the assault guns cover them with protecting fire. It is believed that the Germans regard close cooperation between the assault battery and the first echelon of tanks as essential in effecting a quick destruction of antitank defenses.

If hostile tanks counterattack, the German antitank guns engage them, and the assault artillery unit seeks to destroy the hostile guns which are supporting the attacking tanks. When the German antitank artillery is unable to stop the hostile tanks, as a last resort, the self-propelled assault guns engage the tanks, opening fire on them with armor-piercing shells at a distance of 650 yards or less.

In the pursuit, the assault guns give the infantry close support to strengthen the latter's fire power.

The most important role of the assault battery in defense appears to be in support of counterattacks. However, in special instances, they have been used as artillery to reinforce the division artillery. When an assault battery is to support a counterattack, it is freed from all other tasks. The battery, knowing the limits within which the counterattack will operate, acts just as it would in supporting an infantry attack. Assault-battery officers and infantry commanders jointly make a careful reconnaissance of the area in which the counterattack is to take place.

The most vulnerable points of a German self-propelled assault gun, according to the Russians, are the moving parts, the rear half of the fighting compartment, the observation apparatus, and the aiming devices.

The Russians contend that their antitank rifles and all their artillery guns, beginning with their 45-mm cannon, are able to fight successfully against the German assault guns. Heavy losses of self-propelled guns, the Russians say, have greatly weakened the German Army's aggressiveness in the attack and tenacity in the defense.

Section V. NEW 75-MM ANTITANK GUN

As the effectiveness of the tank increases, especially as a result of more powerful armament and greater armor thickness, the development of antitank weapons is necessarily speeded up. Until recently the largest caliber German antitank gun (not to be confused with the dual-purpose AA/AT gun or with the tank gun)

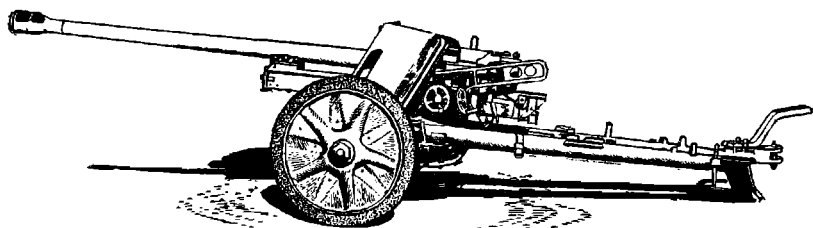


Figure 7.—German 50-mm Antitank Gun.

was the 50-mm (see fig. 7). However, the Germans now have a 75-mm antitank gun (see fig. 8), which they designate as the 7.5-cm Pak¹ 40.

Although this new long-barreled gun is very similar in appearance to the standard German 50-mm antitank gun, known as the 5-cm Pak 38, the new 75-mm has

¹ *Panzerabwehrkanone*—antitank gun.

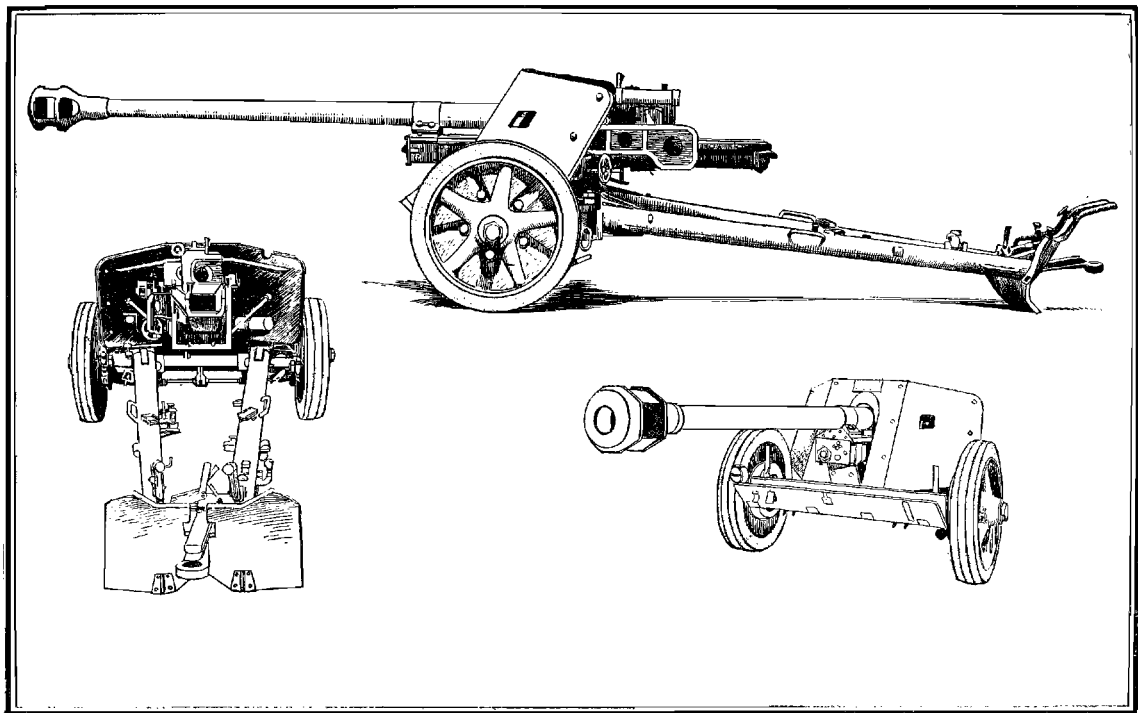


Figure 8.—German 75-mm Antitank Gun.

certain structural differences which may readily be detected: its shield is angular, and has a flat frontal section with two flat side pieces set at an angle of about 45° to the plane of the frontal section; its muzzle brake is broader and longer; and its sighting aperture is square.

The new 75-mm, exclusive of its carriage, is essentially the same weapon as the German 75-mm long-barreled tank gun, which the German Army designates as the 7.5-cm Kw. K.² 40 (the latter is now the principal armament of the Pz. Kw. 4, and also appears in two self-propelled versions.) The chief differences between the 75-mm antitank gun and tank gun are probably the substitution, in the antitank gun, of mechanical firing and percussion primer for electric firing and primer; the chamber of the antitank gun is also probably much longer. The breechblock is of the semiautomatic, horizontally sliding type.

The 75-mm antitank gun is mounted on a split-trail carriage, with torsion springing; this springing is automatically cut out when the trails are open. The light-alloy wheels are fitted with solid rubber tires. An unusual feature is a detachable third wheel, which can be fitted on near the trail spades, to permit easier manhandling. The gun has a double baffle muzzle brake.

Additional details about the weapon are as follows:

Over-all length in traveling position-----	19 ft. 2 in.
Over-all height-----	54 in.

² *Kampfwagen Kanone*—tank gun.

Weight in action.....	3, 350 lbs.
Length of barrel.....	10 ft. 6 in.
Length of recoil.....	35. 43 in.
Elevation.....	+22 degrees.
Depression.....	- 5 degrees.
Traverse.....	65 degrees.

Four types of ammunition are used: high explosive, hollow charge, armor-piercing shot, and an armor-piercing tracer shell with a small explosive charge and an armor-piercing cap covered with a ballistic nose. The armor-piercing shot is the usual German steel casing enclosing a tungsten carbide core; it is fitted with tracer.

Detailed confirmed information regarding the effectiveness of this weapon is not yet available. It has a low silhouette, certainly, and this is always a definite advantage for an antitank gun. While the muzzle velocity is high, the tube is of monobloc construction and the propellant charge is very large; in view of this, the safety factor may be regarded as somewhat doubtful. Nevertheless, the Germans apparently have confidence in the gun, inasmuch as they are now manufacturing it as a standard weapon.

Section VI. TACTICS USED BY Pz. Kw. 4's (WITH SHORT 75-MM GUN)

1. INTRODUCTION

Although recent models of the German Pz. Kw. 4 medium tank have been fitted with a long-barreled 75-mm gun, the Germans are still using Pz. Kw. 4's mounting the short-barreled 75-mm gun (see fig. 9). For this reason the information which follows should prove useful. It is based on German Army documents which discuss the tactics employed by individual Pz. Kw. 4's armed with the short 75-mm gun, by medium tank platoons, and by medium tank companies.

2. TACTICS OF INDIVIDUAL TANKS

a. Because only a small amount of ammunition is carried, the gun is normally fired while the tank is at the halt, so as to avoid waste. The Germans state that the machine guns mounted in the turret and hull can be employed successfully against mass targets—such as columns, reserves, limbered guns, and so on—at ranges up to 800 yards.

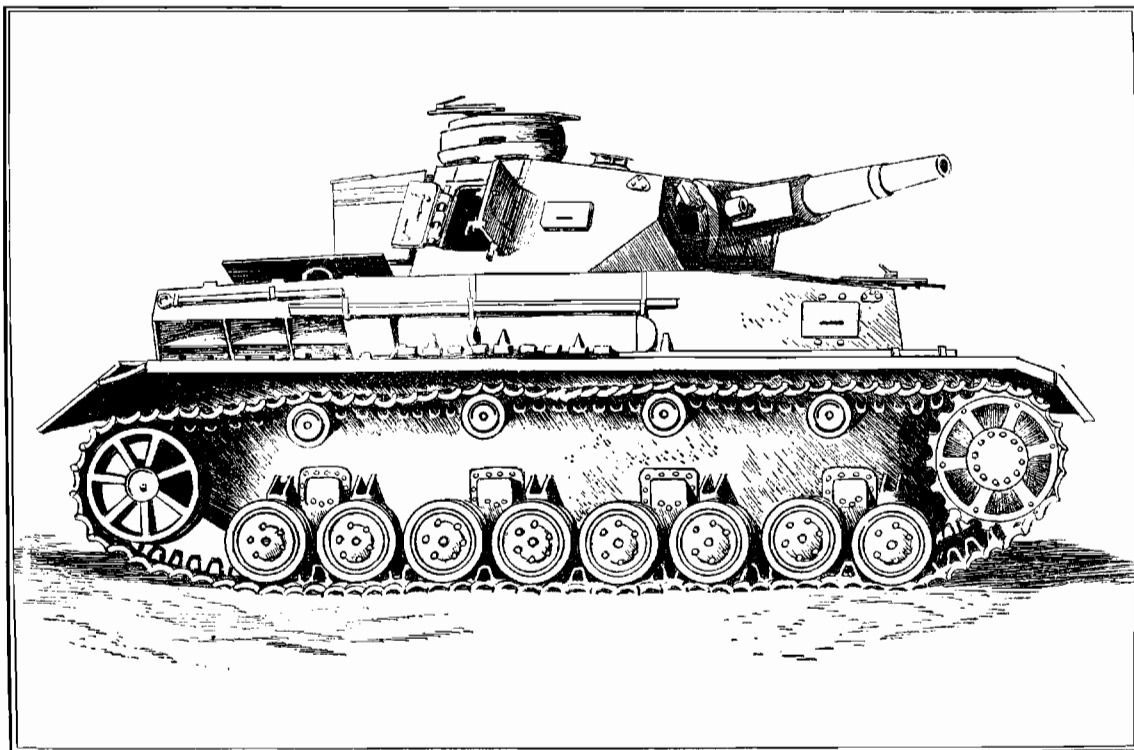


Figure 9.—German Pz. Kw. 4, Mounting a Short-barreled 75-mm Gun.

b. As soon as a target has been put out of action, or as soon as attacking German troops are so near a target that it is dangerous for tanks to fire, the tanks move forward by bounds of at least 200 to 300 yards. When changing position, the drivers take care to keep their correct position in the tactical formation.

c. Single tanks may be used for supporting action against prepared positions. The tank normally moves from a flank under cover of smoke. Embrasures are engaged with armor-piercing projectiles, and neighboring defenses are blinded by smoke. Tanks usually do not fire on static defenses at ranges of more than 400 yards. The assault detachments work their way forward under this protection, and as soon as lanes have been cleared through the antitank defenses, the tank follows and engages the next target. The German Army requires close cooperation between tank and assault-detachment commanders. Light signals and other types of signals are prearranged.

The Germans also use single tanks in woods fighting and for the protection of rest and assembly areas.

3. PLATOON TACTICS

a. During the attack, medium platoons move forward in support of the first wave. Half the platoon gives covering fire while the other half advances. The whole platoon seldom moves as a body.

b. The platoon commander directs by radio, and he can control fire either by radio or by firing guiding-rounds to indicate particular targets.

c. Antitank weapons usually are engaged by tanks at the halt. If the nearest antitank weapon can be dealt with by the light tank company, the medium platoon engages more distant antitank weapons or attempts to blind them. Artillery is engaged in the same manner as antitank weapons. The Germans consider enfilade fire especially profitable.

d. If the light company encounters hostile tanks in the open, the medium platoons at once engage them with smoke shells in order to allow the light company to disengage and attack the opposition from a flank.

e. Moving targets and light weapons are engaged with machine-gun fire and by crushing; mass targets are engaged with high explosive.

f. Against prepared positions, the procedure is that described in paragraph 2c, above. When the whole platoon is employed, the advance may be made by mutual fire and smoke support. The platoon assists in the consolidation of a captured position by promptly laying down smoke and fire. Metal obstacles may be engaged with armor-piercing projectiles. The platoon does not move forward again until all hostile weapons in the prepared position have been knocked out.

g. In street fighting a medium platoon may be used in the second echelon to lend support. The Germans employ the tanks' guns in cleaning up nests of resist-

ance in houses; they also use the tanks themselves to crush lightly-built houses.

h. If a front-line tank formation is ordered to hold an objective until the arrival of infantry, the medium platoon gives protection by taking up a position on high ground affording a large field of fire.

4. COMPANY TACTICS

a. Medium platoons under the command of light companies use the latter's radio frequency.

b. Reserve crews follow immediately behind the fighting echelon, and move back to join the unit trains only after the beginning of a battle. They come forward again as soon as the battle is over. Reliefs are supposed to be so arranged that first-line drivers are thoroughly rested when they leave the assembly area to take over before an action.

c. The repair section, commanded by a noncom, travels with the combat echelon until the beginning of the battle.

d. The company commander travels at the head of his company until the leading platoons have gone into action. He then establishes a temporary command post with unimpeded observation of the battle area. Maintaining direction and contact is the responsibility of company headquarters personnel while the commander is at the head of his company.

e. In the attack the normal formations are the broad wedge (*Breitkeil*)¹ or extended order (*geöffnete Linie*). The Germans believe that effective fire on the part of the whole company can be obtained if the rear elements provide overhead fire or if they fill up or extend the front of their company to form a line.

f. In tank-versus-tank actions, the company is employed as a unit, whenever possible. When hostile tanks appear, they are engaged at once; other tasks are dropped. If time permits, the battalion commander detaches the medium platoons which have been attached to light companies, and sends them back to the medium company. At all times medium tanks attempt to fight with the sun behind them.

g. During the pursuit the medium tank units are employed well forward so that they can take full advantage of the longer range of their high-explosive shells.

5. RECOVERY

Tank mechanics move directly behind the combat echelons. The recovery platoon is responsible for towing away those tanks which cannot be attended to by the repair section. The recovery platoon is under the orders of the regimental workshop (maintenance) company commander, who has under his control all equipment and spare-part trucks of the tank companies. These follow by separate routes as prescribed by him.

¹ Three platoons are involved, forming a hollow triangle with its apex forward.

Section VII. MISCELLANEOUS

1. METHODS OF OBSTRUCTING AIRDROMES

The Germans and Italians are expert at rendering airdromes temporarily or permanently unserviceable, and have employed a number of methods of obstructing and destroying airfields and landing grounds from which they have been forced to withdraw.

Vehicles, heavy construction equipment, logs, drums filled with rocks, and other movable obstacles are placed on runways and landing areas to prevent Allied forces from using them and, at the same time, to keep them available for the Axis. Nearby areas which might also be used for landing are blocked with more permanent obstacles, such as steel posts, cables, timbers, and ditches. When an airdrome can no longer be defended, it is demolished by explosives, plowed up or scarred with deep trenches, and then liberally sown with mines and booby traps.

In North Africa the roads in the vicinity of certain abandoned Axis airdromes were found to have been mined very carefully to delay the Allied advance and give the Germans time to destroy the surfaces of their landing fields. The thoroughness with which the land-

ing fields themselves were mined varied greatly; some had received only slight attention, whereas others had been mined in the most elaborate manner possible (see fig. 10).

On one airdrome the ground was furrowed in patterns resembling giant fingerprints. Effective furrows were also cut by a small metal wedge about 8 inches wide, with the cutting edge leveled back at 45 degrees. Ordinary plows were also used. Z-shaped trenches and irregular bomb craters were found in another field; and in still another, the runways had been crossed with trenches and the landing ground further obstructed by wrecked aircraft, motor vehicles, and the familiar emergency device of barrels filled with rocks. The Axis of course destroys its hangars whenever this is possible.

Several types of booby traps are likely to be planted before an airfield is abandoned (see fig. 10). For example, mines made up of several charges packed in a wooden box, and the whole buried in a landing strip, may be booby-trapped in as many as three ways. The lids of these improvised wooden box mines are open about $\frac{3}{4}$ inch. The box explodes if it is lifted, or if the lid is either lifted or stepped on. "S" mine crates may be buried in the ground, with metal spikes protruding to damage tires, and fitted with anti-lifting devices. Gasoline, oil, and water cans and drums may be partly buried in the runways, and similarly fitted with anti-lifting devices. (See *Intelligence Bulletin* No. 10, pages 7-12 for additional details.) Booby

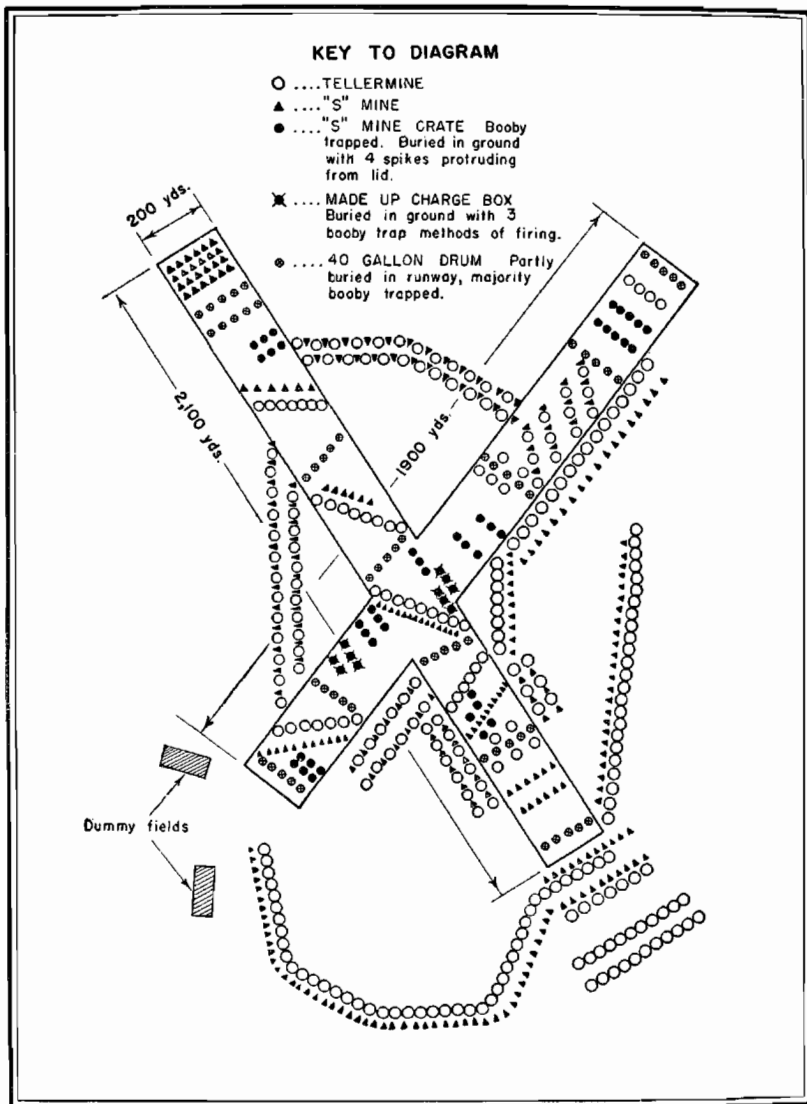


Figure 10.—Abandoned Axis Landing Field in Libya (showing positions and types of mines and booby traps).

traps are also fitted to the movable parts of abandoned planes and vehicles.

Temporary obstructions, such as barbed wire, fences, and logs, have been observed on temporarily unused fields in France, Belgium, and Holland, and also on portions of active fields. Another portable obstruction now greatly favored by the Germans is an arrangement of beams or metal rails, lying crossed on the ground, or standing and secured near the top, like the poles of an Indian wigwam. All these obstacles, of course, can be cleared when the fields are needed, and replaced when the occasion demands.

A semipermanent type of obstacle which has been observed in occupied countries consists of an upright tree fixed in a cement block. Such obstacles are sometimes supplemented by stakes driven into the ground at irregular intervals, and the approaches to the field closed by networks of barbed wire. In one instance an airfield had been completed, and then evidently found unsuitable; it was made unserviceable for landings by a series of evenly-spaced trenches 16 inches deep. Large felled trees, which take an appreciable time to remove, are also used as semipermanent obstacles.

2. DELAYING TACTICS (TRIPOLITANIA)

In Tripolitania the Axis handled its rearguard skillfully during the withdrawal. The following notes are of interest as an illustration of the enemy's methods.

a. The foundation of his rearguard positions was always the 88-mm antiaircraft-antitank guns, with a 50-mm core.

b. In support he had: long-range artillery (105's, 210's, and 75's on self-propelled mounts), tanks, infantry (very well equipped with machine guns and mortars), and engineers.

c. In the initial stages (open desert) his rearguard screen was at first deployed over a very wide front. He used his artillery (including 88's firing frontally) at extreme range to hold up the British Eighth Army's advance and to force it to deploy. He used mines (including dummy minefields) effectively for the same purpose.

d. He showed his tanks and moved them about, to attract the attention of British tanks and observation posts while he was concentrating his antitank guns in the British line of advance. He then withdrew his tanks to defiladed positions.

e. He did not attempt to withdraw his antitank guns until twilight (in some cases, not until after dark), when he invariably moved his tanks forward to cover the withdrawal of the guns.

f. His 50 mm's were always defiladed, except in the close country south of Castel Benito, where he relied on natural cover and concealment.

g. He always had a covered line for withdrawal of his antitank guns.

h. He sited his infantry to protect his antitank guns against infantry attack. The protection was achieved by machine-gun and mortar fire from the flanks, not by men in front of the guns.

i. In an action south of Castel Benito, he made excellent use of both natural cover and natural tank obstacles when siting his guns. However, the damage inflicted was negligible, since he preferred to hold up the British by firing at extreme range, rather than waiting until he could be certain of a "kill."

3. "TEN COMMANDMENTS" FOR USING TANKS

A Fifth Panzer Army order signed by Lt. Gen. Gustav von Vaerst (now a United Nations prisoner) lists ten "commandments" regarding German employment of tanks:

a. The tank is a decisive combat weapon. Therefore, it should not be used except in a center of gravity and on appropriate terrain.

b. The tank is not a lone fighter. The smallest tank unit is the platoon, and, for tasks of considerable importance, the company.

c. The tank is not a weapon to accompany infantry. Forcing its way through the enemy, it enables the infantry to follow it closely.

d. The tank can take, and mop up a sector, but it cannot hold the sector. This is the task of the infantry, supported by its heavy arms, antitank weapons, and artillery.

e. The tank is not an artillery weapon which can long harrass an enemy from a firing position. The tank fights in movement, and subjects its targets to fire for a short while only.

f. The task of the infantry is to neutralize hostile antitank weapons and quickly follow up tank attacks, so as to gain the best possible profits from the tactical and moral impact.

g. The task of the infantry is to give fire support to the assault of the tanks, to neutralize hostile artillery, and to follow up the progress of the tank attack by coming up behind the tanks quickly to obtain a decisive effect. The task of the supporting artillery is to protect the flanks of the attacking tanks by fire, keeping pace with the advance.

h. The task of the armored infantry is to follow up closely the attack of the tanks, so as to be able to intervene immediately in the battle of tank against tank.

i. The mission of the engineers is to open up passages through the minefields, under the protection of the tanks. This makes it possible for the tank attack to start anew.

j. At night, the tank is blind and deaf. Therefore, the task of the infantry is to protect it with their arms.

(Signed) VON VAERST.

PART TWO: JAPAN

Section I. JAPANESE PRISONERS¹

1. DO JAPANESE SURRENDER?

The answer is definitely "yes." United Nations forces have already captured hundreds of Japanese. It is true that they, as a whole, are stubborn and persistent fighters, but some of them will surrender when up against tremendous odds. They begin to doubt the invincibility of the Japanese Army when, after a long and desperate struggle, they are cut off and without prospect of relief.

2. RESULTS OF BROADCASTS

A number of Japanese surrendered on Guadalcanal as a result of broadcasts in Japanese and the dropping of leaflets. The broadcasts were made at times when the front lines were more or less stable and the opposing forces were close to each other.

¹In connection with this section, reference should be made to FM 30-15, which gives our own training doctrine relative to the value of enemy prisoners, documents, and matériel, and the procedures to follow in utilizing them.

A U. S. officer who spoke Japanese broadcasted frequently to enemy troops, telling them that they would be unharmed, given food and rest, and would be treated well if they came over with their hands up.

In response, the Japanese would first send one man out with his hands up. If he was not harmed, others would follow. Sometimes a "trigger-happy" U. S. soldier would shoot one of these men, with the result that others would not follow. "Trigger-happy" soldiers can fumble the ball in a big way at times—not only in such cases as the above, but while serving as scouts, on patrols, and in any other capacity where silence is really "golden." [A news correspondent who spent considerable time on Guadalcanal recently was asked for his best single bit of advice for enlisted men and junior officers training for jungle warfare. He said: "Learn to be as silent as a frontier Indian, and as patient as a cat waiting for a rat."]

One prisoner said that after hearing the U. S. broadcast, a number of Japanese held a meeting to decide whether or not to surrender. Several favored the idea, but they decided to stay in the battle and fight until killed because some of their comrades were wounded and so weak that they were not able to go over and give themselves up. However, a U. S. bombardment the next day was so heavy that the group submitted to capture.

Some of our troops on Guadalcanal were dug in for a time near a large field covered with high grass.

They called the field "prison alley," because a large number of Japanese surrendered there. Sentries stationed at the edge of this field were on constant watch for Japanese to come out of the bushes with their arms up. When one showed up and was waved on by the sentry, 10 or 12 others would follow immediately.

3. REGARDING JAPANESE LABORERS

The Japanese had 600 to 700 laborers on Guadalcanal when we invaded the island. These men were used for labor duties because they were unfit for military service. When the bombing started, most of them took to the jungles to hide—they apparently were considerably frightened. (Many Japanese laborers were also used later to strengthen the Japanese defenses at Buna.)

U. S. troops worked out a plan whereby one, two, or three of these captured laborers—volunteers—would be released to go into the jungles, contact other laborers, and bring them into our lines. These volunteers carried white flags, and went out at a designated hour. All our troops were told of the plans before the Japanese went out, so they were not molested. These volunteers performed their mission exactly. They contacted the other laborers, and within a week droves of them filed into our lines.

4. REACTION OF PRISONERS

The Japanese generally make good prisoners. They appreciate kind treatment, and are very cooperative.

A high Japanese officer, questioned by a U. S. officer who spoke Japanese, refused at first to give any information other than his name. Later, under kind treatment by the Americans, his confidence was gained and he talked without hesitation. "You can torture me—do anything to me—and I won't tell you a thing," he said. "But if you treat me kindly, then I will tell you anything you want to know."

In another instance, a Japanese lieutenant who surrendered, revealed that he had been told to cover the rear of his unit in retreat. "Why should I hold the rear?" he said in response to a question. "The rest are getting out. I'm not going to be a sucker—left holding the bag."

Nearly all Japanese prisoners said they had expected their captors to kill them.

"Do your officers tell you that the Americans would commit atrocities on you?," some prisoners were asked.

This was denied by every prisoner. "No, not at all," one replied. "We just expected it as part of the warfare."

Section II. NONCOM TELLS EXPERIENCES IN NEW GUINEA FIGHTING

1. INTRODUCTION

An infantry sergeant who took part in some of the toughest fighting in New Guinea early this year has written a story of his experiences for the Military Intelligence Service. Because his story will be both interesting and helpful to U. S. military personnel, it is reproduced below. The sergeant was wounded in action and has been returned to the United States.

2. THE STORY

On January 1 [1943], we were flown over the Owen Stanley range [New Guinea] to relieve an Australian combat unit, which was keeping open a trail over which natives were bringing up supplies.

The first day we had snipers firing into our perimeter [an area with all-around defense] with explosive bullets, which were very irritating and nerve-wracking. The next morning the same thing started. I got permission from my lieutenant to go out and see if I could find the sniper. I walked about 40 yards out of the perimeter, and I saw him in a large tree about 300 yards away. Since this was the first Jap I had seen, I was quite nervous.

I took my time and fired 5 shots. The Jap fell only partly out of the tree; he was tied in by his legs, and his rifle was strapped to a limb.

Our first general activity was to send out patrols under company noncoms, to be sure there were no Japs digging in.

One day about noon, our commander asked for volunteers to go into an area believed to be occupied by the Japs. I asked for two men to go with me into the area. We had gone about 300 yards when we thought we heard something moving in the undergrowth. I left the two men behind and crawled up to a place where the growth had been cut down to about knee height. There I could see fresh dirt, so I lay still and listened for about 30 minutes. Then I brought the other two men up with me and I left them in my position while I crawled forward to investigate. I found a freshly dug hole, with a banana-tree trunk forming a wall about waist high on two sides of it. I called the other men up, and we decided to go back and report what we had seen; however, just then a .25-caliber machine gun opened up, and we immediately dived into the hole. We thought that the enemy was covering the hole with this one gun, but another .25 caliber opened up from another direction. All during the afternoon we exchanged fire with them, using our Thompson submachine guns and the one Browning automatic rifle we had with us. At about 2000, after dark, we went back into the jungle and got away without a shot being fired at us. We stayed in the jungle that night because it is absolute suicide to go into your own perimeter after dark.

The next morning we reported what we had seen.

At night you're not permitted to fire your rifle because it would reveal to the Japs exactly where you are—you use only hand grenades and the bayonet.

The Japs will go from tree to tree during the hours of darkness and make noises, or call familiar names of people, or call your medical personnel. When they have located your perimeter, they

fire their machine guns about waist high over your position; then they send a group of men crawling in under their own fire. They crawl very slowly until they feel the edge of your fox hole; then they will back away a bit and throw in hand grenades.

Another favorite Japanese trick is to capture a wounded man and place him near a trail or perimeter and then cover him with machine-gun fire. They will torture him until he screams and yells for help, but it is absolutely suicide to send in help for him.

One morning at 0845 we were told we were going to attack the Jap perimeter at 0900. The lieutenant in charge took with him two runners, who carried a telephone and the necessary wire. When we were at the right position, our artillery and machine guns laid down a barrage until the lieutenant telephoned back for them to stop. We moved on, on our bellies. The Japs were out of their pillboxes and seemed to be doing some sort of fatigue work. There were six of us who got within 20 yards of them without being seen. We had three Tommy guns, a Browning automatic rifle, a Springfield rifle, and a Garand rifle. The lieutenant motioned for us to start firing. One sergeant threw a grenade, and, as it hit, we opened up with all our guns. There wasn't a single Jap who escaped, but there were some left in pillboxes, and they pinned us down with fire from one .50-caliber machine gun and from several .30-caliber machine guns. One of our six men got hit near the hip with a .50-caliber bullet, which lodged in his left shoulder. The Japs also wounded three more of our men who were behind us. The lieutenant telephoned the commanding officer and told him of our situation, and we were ordered to retire. Later we made another attack on this perimeter and took it.

There was a lieutenant who had been shot down near a pillbox, and our commanding officer asked for volunteers to go in and get him. When he was last seen he was still alive, but when we got to him, after wading through swamp water waist deep, he was lying on his stomach—dead. While we were going toward him,

the Japanese had killed the lieutenant by slashing his stomach, and had placed him on an "island." We put him on a litter and started back into our own perimeter, but the Japs opened fire on us, and we had to leave him and take cover in the trees. I thought the fire was coming from only one pillbox, so we all started firing in the direction from which the fire was coming. We soon learned, however, that there were two more pillboxes from which we also were receiving machine-gun fire. When they stopped firing, another boy and myself went out and got the lieutenant and took him into the perimeter. Later he was taken to battalian headquarters (command post) where he was buried in the regimental burial ground.

On January 15 our battalion moved into a position to make an attack on a large Japanese perimeter. All artillery and machine-gun fire was concentrated on this perimeter before the infantry started pushing forward. The heat was terrific. We moved in about 100 yards under Japanese fire, with two platoons forward and one in reserve (the squads also were two forward and one in reserve). My squad was in reserve when we started pushing forward.

The lieutenant sent back for me to bring my squad forward and relieve the right squad. Because so many of this squad had been killed and wounded or had passed out from heat exhaustion, I thought I might find a better place to put my men. So I crawled forward to find positions for them. I had found a few good shell holes, some logs, and depressions in the ground, when a .30-caliber machine gun opened fire on me. The first burst hit the front handle grip of my Tommy gun, and, of course, I got as low as possible; but the second burst hit my Tommy-gun drum, and two bullets hit me in the arm. Also, fragments of the drum hit me hard—on the hand and shoulder. These .30's were explosive bullets which broke up my arm and tore a great deal of flesh away from it. It felt as if an ax blade were shearing through the flesh of my arm.

I rolled over into a small depression of the ground, and took my knife out and tried to cut off the sleeve of my coveralls. While I was cutting, I saw the barrel of the .30 caliber sticking out of a small pillbox, so I rolled back and got my Tommy gun, thinking there might be a chance of knocking out this one machine gun, which was about 20 yards away. Just as I was getting in the right position to shoot, a .25-caliber machine gun opened up from the left. One bullet hit me in the elbow and one in the ribs—the latter went through my pipe and a can of tobacco and only broke my rib. I pulled out this bullet myself, burning my index finger on the hot lead. Another bullet went through my helmet and just grazed my scalp. I lay there for about 3 hours in the hot sun, bleeding profusely. Figuring that I would bleed to death if I remained there, I began to crawl back to my own men—only hoping and trusting to God that He would give me strength and protection to get back. I got back to my men, and the platoon medical personnel made a hasty cross splint and sling for my mangled left arm. One of my men helped me back to the command post where litter bearers took me back to a dispensary. Attendants gave me morphine and put me on a jeep, which carried me back—with several other casualties—to the 11th Portable Hospital. There medical officers operated and took out two bullets. I stayed there that night, and the next day I was sent to a small landing field where a plane was waiting to take casualties back to Port Moresby.

After staying a short time in Moresby at the 171st Station Hospital, I was flown to Australia, where a board of medical officers determined that I should be returned to the United States.

Section III. JAPANESE WARFARE AS SEEN BY U. S. OBSERVERS

1. INTRODUCTION

The contents of this section have been extracted or paraphrased from reports submitted by U. S. observers, some of whom took part in the fighting they describe. The contents have been arranged in two separate paragraphs, one dealing with enemy tactics on Attu Island and the other with enemy tactics on the Arakan front in Burma.

2. ON THE ATTU FRONT

a. General

The Japanese on Attu had large quantities of various types of foods, plenty of warm clothes and bedding, and were otherwise well equipped for a long siege.

In some instances they appeared to be well trained and led, and they fought with reckless abandon—even when the odds were tremendously against them—but in other instances the exact reverse was true. One

observer stated that the enemy appeared to fight with great precision and determination when carrying out a carefully prearranged plan, but that he appeared confused and not very effective when his plans were upset. Some of the enemy would defend their positions to the last man, while in other instances they would leave well-prepared posts and retreat without putting up much of a fight.

This same observer reported that the Japanese infantrymen had plenty of ammunition and used it freely, but that they generally were poor shots.

b. Defense Positions

The Japanese had strongly prepared positions in all the key passes. These positions were usually centered around machine-gun nests, but mortars also were used, and foxholes for snipers were arranged in depth. These foxholes were well hidden, individually drained, and often interconnected with underground tunnels. They were well stocked with food and ammunition.

Figure 11 shows a common type of emplacement for a machine gunner and the type of cave generally used by riflemen. The main view (*b*) shows a typical set-up, with a machine-gun emplacement flanked on either side by two-man caves for riflemen. Notice that the Japanese cut a small ditch right through the middle of the emplacement—so that a running supply of snow water would be available at all hours. These streams also made it difficult to identify the emplacements

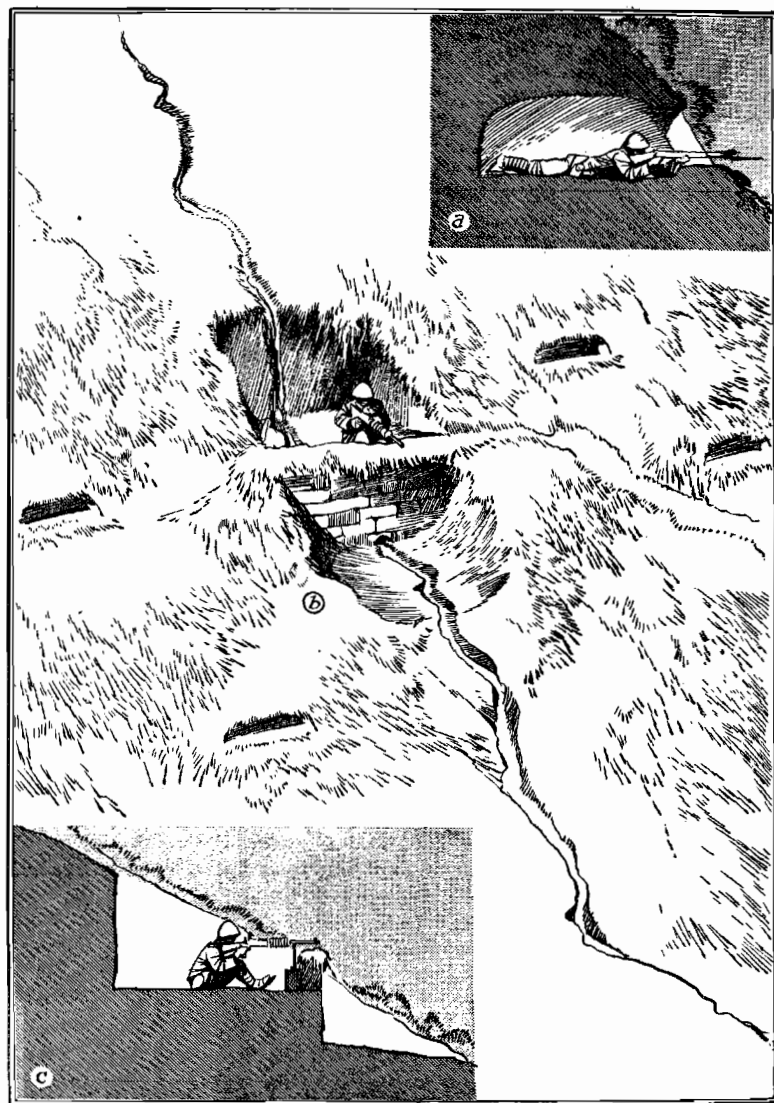


Figure 11.—Japanese Defense Positions.

from air photographs. Figure 11a shows a cross section of a two-man cave, and figure 11c shows a cross section of the machine-gun emplacement.

Most of the Japanese emplacements and caves were constructed on hillsides or mountainsides. Very few were found on top of ridge lines or at the foot of the hills or mountains.

c. Camouflage

Dead native grasses were extensively and cleverly used by the Japanese. Pits dug into the ground to house ammunition and other supplies were almost invariably covered with grass. Some tents were camouflaged with grass which had been interwoven with loosened strands of rope.

A cook shack erected on the bank of a creek had no entrance except from the bank of the stream.

d. Weapons

The weapons encountered by our forces included Type 98 antiaircraft guns, caliber 20-mm, which are reported to be capable of firing 300 shots per minute. In one area, ammunition for these guns was stored in holes about 2 feet deep and 12 feet square and covered with grass.

A few booby traps were encountered. They were simple devices, which resembled a 10-cent-store mouse trap. They would not explode unless someone stepped on the ignition fuze.

Several smoke grenades, manufactured in June 1941 and marked "98 Type," were also found. They give off a white smoke which lasts for 1½ minutes.

e. Equipment

An unusual item of Japanese equipment was a portable wooden steam bath tub, which had a fireplace—outside opening—and a compartment for heating water. The tub, about 4 feet high, had a lid which fitted over it, except for a 4-inch slit for breathing and observation.

Two types of stoves have been described by observers. One was merely an oil drum with two holes in the top to hold two cooking utensils. The other was a round stove, found in the center of a tent. It was flat-topped, about 30 inches high, and 18 inches in diameter. Coal was used as fuel. Mess kits, which held 3 pints or more, were hung around the edge of the stove. A kit, when taken apart, actually consisted of a pail and two pans.

An observer described one type of Japanese tent as follows:

The tent was circular, about 5 feet in diameter, and was made of a poor quality of 8- or 10-ounce white duck. It was not rain-proof; things inside were damp and mildewed. It had a 3½-foot side wall and a square door. A trench was dug from the entrance to the center.

The grass had been cut inside the tent, and the smooth ground was covered with a variety of odds and ends to allay dampness. Several sleeping mats were scattered about on the flooring.

The Japanese appeared to have plenty of good grade wool, or part wool flannel-type blankets of two colors, OD and gray. The size of the blankets were small, about 5 feet long and 3 feet wide.

f. Clothing

The Japanese had a wide variety of Arctic clothing, including fur-lined shoes, mittens, coats, and heavy sheep-skinned parkas (fur-lined hoods). Most of the fur came from white rabbits. They also had very serviceable rubber boots, which came up to the knees, and parka-type raincoats, which were lined for warmth and which came down to the knees.

g. Food

Large quantities of food were taken by our forces on Attu. The kinds of food included rice, dried and fresh fish, oatmeal, canned oriental oranges, potatoes, fresh carrots, dehydrated green vegetables, fresh onions, soy-bean cake and sauce, canned salmon, canned meat balls, dried beans, tea, vitamin pills, candies in small boxes, and *sake* (a kind of wine made from rice).

One observer reported that food found in one tent was contained in the following manner:

Dried rice in heavy matting bags; dehydrated green vegetables packed in rubberized bags. These rubberized bags or rubber-covered canvas tubes are about 4 feet long and 9 inches in diameter, and are tied at both ends. One half is filled with rice in a heavy mat tube that fits into half the length of the cylinder. The other end is filled with dehydrated green vegetables. We

also found dried whole fish, about 10 inches long and 4 inches wide and weighing from 4 to 6 ounces. These fish are packed in hermetically sealed boxes within wooden cases, like our ammunition boxes. The cases were about 14 by 20 by 30 inches. We also found tall wine bottles, canned salmon, preserved fruits, and jams. Dried beans, of the large white variety with black eyes and a little larger than the G. I. black-eyed pea, were found packed in heavy-matting burlap bags.

3. ON THE ARAKAN FRONT

a. Defense Positions

The following notes by observers on Japanese defenses in Burma (Arakan front) are mostly supplemental to information given previously in the *Intelligence Bulletin*:

The Japanese, in this area, have consistently stuck to a policy of all-around defense in small localities. They have shown great energy in preparing alternative positions. This policy may be due to the enemy's thin spread of troops on the ground, but they have been able, so far, to fall back on prepared defenses, ready to make a further stand without being delayed by digging.

In recent operations the Japanese have strongly defended positions in ravines . . .

The Japanese interpret heavy shelling as the probable beginning of an attack in force. Careful observation by a British officer before, during, and after the concentrated shelling of an enemy strong point revealed that the Japs were dug in well enough to enable their observers to keep their heads up during the shelling. Throughout the shelling one enemy observer watched the British positions through binoculars—in fact, his observation was not interrupted by four direct hits on his po-

sition. If the British had attacked, the enemy would have been able to call for defensive fire at any time.

Japanese beach defenses in Burma include a trench system within wire obstacles. The system consists of two groups, which enclose irregular areas. The two groups are separated by a tidal creek. The trenches themselves are about 5 feet wide at the top, and have shallow firing bays on both sides—thus affording an all-around field of fire. The trenches zigzag irregularly, and the fire bays are spaced at intervals varying between 23 and 70 feet. There are about 66 bays, equally divided between the two groups.

The only defensive structure within the trench system is a pillbox, about 10 feet square. A single line of wire, set on posts at about 10-foot intervals, enclose the two trench systems on the north and south. Along the shore side are double lines of wire, 10 feet apart and strung in shallow zigzags. On the landward side, the tidal creek is used as a boundary to the defense area—there is no wire defense along the creek.

b. Dispersion

Japanese forces, in possession of an area, split up into parties as small as 20 men and live in villages that are reasonably well connected to roads and jungle trails. This dispersion has the following advantages:

(1) It enables the enemy to live off the country without imposing a heavy strain on any particular district.

(2) It makes possible the rapid grouping and deployment of forces for purposes of attack and defense.

(3) The plan makes it very difficult for air observers to get any idea of the number of troops in an area.

Section IV. NOTES ON THE JAPANESE— FROM THEIR DOCUMENTS

1. INTRODUCTION

This section consists of a variety of Japanese documents, which have been edited and paraphrased to eliminate repetition and unimportant parts. The reader must keep in mind throughout that this information is from enemy sources and must not be confused with U. S. methods of warfare.

2. ROAD-MOVEMENT ABILITIES OF UNITS

The Japanese chart below was designed to show the abilities of different types of units to move over roads which have varying natural obstacles.

Type of unit		Width of road (in meters)	Slope	Radius of curvature (in meters)	Fording limit
Dismounted tps (column of fours), Cav (two files)		2.50 (8.2 ft)			80 cm (2.62 ft)
					100 cm (3.28 ft)
FA		3.00 (9.84 ft)	$\frac{1}{10}$ $\left\{ \begin{array}{l} \frac{1}{8} \text{ if the road is short and} \\ \text{straight} \end{array} \right.$	Level ground 10 (32.8 ft) Sloping road 25 (82 ft)	50 cm (1.64ft) (80 cm) (2.62 ft)
Mt Arty	Limbered	1.50 (4.92 ft)	$\frac{1}{8}$ ($\frac{1}{4}$, if as above)	6 (19.68 ft)	(40 cm) (1.31 ft)
	Pack horse	1.00 (3.28 ft)	$\frac{1}{4}$ ($\frac{1}{2}$, if as above)		80 cm (2.62 ft)
Hv FA	Limbered	3.00 (9.84 ft)	$\frac{1}{20}$, ($\frac{1}{8}$, if as above)	Level ground 10 (32.8 ft) Sloping road 25 (82 ft)	50 cm (1.64 ft) 70 cm (2.29 ft)
	Motor-drawn	4.00 (13.12 ft)	$\frac{1}{8}$ ($\frac{1}{4}$, if the length is less than 10 meters)	Level ground 10 (32.8 ft) Sloping road 15 (49.2 ft)	40 cm (1.31 ft)
Field AA Gun		4.00 (13.12 ft)	$\frac{1}{8}$	Level ground 10 (32.8 ft) Sloping road 15 (49.2 ft)	Same as above
Transport	Vehicle	2.00 (6.56 ft)	Same as for Mt Arty		50 cm (1.64 ft)
	Pack horse	1.00 (3.28 ft)			80 cm (2.62 ft)
Automobile		4.00 (13.12 ft)	$\frac{1}{8}$	7.5 (24.6 ft)	40 cm (1.31 ft)
Caterpillar Track Armored Car			$\frac{1}{8}$ or $\frac{1}{2}$		40 cm

3. ROAD-MOVEMENT ABILITIES OF VEHICLES

The abilities of Japanese vehicles, including tanks, to move over roads which have varying natural obstacles is shown by the enemy chart reproduced below.

Type of vehicle	Weight (metric ton ¹)	Max gradient which these vehicles can climb		Radius in which a vehicle can make a turn (meters)	Minimum road width (meters)	Depth of water which can be forded (meters)
		Ice-free period	Freezing period			
Tank	Medium 11 Light 7	$\frac{2}{3}$	Depends upon road surface, but climbing ability is considerably lessened. Non-skid equipment is necessary.	Maximum 7.5 (24.6 ft)	3 (9.84 ft) or 4.00	1.00 (3.28 ft)
Heavy armored car	3.4	$\frac{1}{3}$				0.80 (2.62 ft)
Light armored car	2.3	$\frac{1}{2}$ $\frac{1}{3}$				0.60 (2 ft)
Caterpillar tractor	4.0	$\frac{1}{3}$				0.40 (1.3 ft)
6-wheel automobile	3.5	$\frac{1}{3}$				0.40
6-wheel passenger car	2.5	$\frac{1}{3}$				0.40
Motorcycle with sidecar	0.44	$\frac{1}{3}$				0.20

¹ A metric ton equals 2,204.6 pounds.

4. DEFENSE AGAINST ANTI-AIRCRAFT

A Japanese commander gave the following instructions to his unit as it moved into an area near Buna, New Guinea:

It is particularly urgent that you take appropriate anti-aircraft measures. Carelessness in this respect by even one soldier could bring about general disaster. The instructions below must be rigorously observed.

- a. Locate and conceal all bivouac areas in the jungle.
- b. Complete air-raid trenches quickly.
- c. Do not cut trees or branches in bivouac or anti-aircraft-defense areas.
- d. Mark roads connecting units, so that they can be followed at night.
- e. Obscure entrances to bivouac areas, and take precautions in entering and leaving to prevent discovery by the enemy.
- f. Gather up drying laundry in a hurry when an air-raid alarm sounds.
- g. Cook only between the hours of 0200 to 0400 and 1600 to 1800. Provide sand in cooking area for use in putting out fires in case of air raids.
- h. Set up kitchens at least 500 yards from the unit bivouac areas.
- i. Collect only very dry wood for fires in order to lessen smoke.
- j. Enforce rigid control of lights at night.
- k. Get to shelters immediately when the air alarm is sounded, and do not move about.
- l. Put on steel helmets as soon as our anti-aircraft guns begin firing, for protection against splinters.
- m. Camouflage tents.
- n. Observe that our planes wiggle their wings from left to right when flying low over our positions, so that we may distinguish them from the enemy.

5. GENERAL INSTRUCTIONS

The following instructions were taken from two separate documents:

- a. Avoid panic when attacked by submarines.
- b. Take off your shoes and leggings when abandoning ship.
- c. Take special precautions with life preservers because they are highly inflammable.
- d. Do not enter civilian residences.
- e. Do not get your own coconuts—have the natives get them for you.
- f. Set up latrines in places removed from bivouac areas. Dig them deep, and provide sand or some other type of cover to prevent the breeding of flies. Latrines must always be used.
- g. Erect beds in camp at least 1 foot from the ground in order to guard against dampness, scorpions, tree snakes, and so forth.
- h. Use only filtered water (obtained from the water supply squad), or water that has been boiled.
- i. Take measures to prevent the breeding of mosquitoes, and take medicine to prevent malaria—which is very prevalent in this area.
- j. Abandon individualism—be a real soldier.

PART THREE: UNITED NATIONS

Section I. HOW TO HANDLE WOUNDED IN DIFFICULT SITUATIONS

1. INTRODUCTION

No attempt is made in this section to give complete details on how to handle wounded in difficult situations. The aim is to furnish pertinent data on current experiments and practices as conducted by medical authorities of the British and American Armies.

2. METHODS OF RESCUE

This paragraph deals with methods of rescuing wounded from trees, cliffs, walls, upper stories of buildings, and tanks. Much of the information is based on experiments conducted at a British Army Combined Training School. The British feel that, aside from improving rescue techniques, this type of training will have a good morale effect throughout the army—that military personnel will volunteer for difficult tasks much more readily if they feel that efficient efforts will be made to rescue them in case of injuries.

The British training consists largely of practical demonstrations, using improvised equipment such as that likely to be found in combat areas. Certain types of rescue equipment, however, is recommended for medical units to carry at all times in theaters of operations. These include block and tackle, ropes, saws, axes, and so forth.

The demonstrations given by the British consist of two general types: one in which the "victim" is only slightly wounded and is able to help himself and the rescuers to adjust various types of slings and knots used, and the other in which the "victim" is supposed to be unconscious and unable to assist.

a. From Trees

In removing wounded from trees, the British recommend that a victim be bundled or tied up as a "package." If he is out on a tree limb, it is generally a good idea to tie him securely to the limb by means of rope or bandages, saw or cut off the limb, and lower it to the ground. In lowering, the British emphasize the importance of the victim's feet being downward and of protecting the man's face and eyes from laceration or scratches by tree limbs or thorns. The lowering is accomplished by throwing a rope over a limb above the one on which the victim rests. The rope naturally will slide much easier over the limb if the latter is smooth. A thorough knowledge of various useful knots and methods of securely tying up a

wounded man or object is an essential part of the British training.

An American observer describes one demonstration as follows:

A man was lowered from a tree limb about 30 feet high. He was supposed to be unconscious, and at the beginning of the demonstration was lying on his belly on the limb, with his arms and legs dangling from each side of the limb. His "rescuer" climbed the tree, crawled out on the limb, let down a light rope, and pulled up a heavier one, which he slung over a convenient limb immediately overhead. He then tied a sailor's knot—two loops, which can be used either as a form of breeches buoy or for some similar application. In this case the loops were adjusted to fit snugly around the "victim's" body; they were put in place by sliding them over the man's legs and around his middle. The loops then were adjusted so that the man was suspended in a kind of cradle when he was lifted—one loop was around his upper legs and the other around his waist. In this position he was lowered to the ground.

b. From Walls or Cliffs

This demonstration consisted of lifting a man to the top of a wall, then over the wall and down to a beach below. The man was raised and lowered over the wall in an improvised stretcher made of bamboo poles tied together. A simple system of ropes and pulleys was used in carrying out the demonstration.

c. From Upper Stories of Buildings

For this demonstration, the British constructed a makeshift boom, which projected out of a second-story window. From this boom, a man, tied in an impro-

vised stretcher, was lowered down the side of the wall. This, of course, is a simple matter for anyone who knows how to do it. The critical moment comes when the man is pushed out of the window and suddenly swings free. Personnel in the window must have a guide rope to reduce the swinging to a minimum before lowering of the victim begins. The British also recommend that personnel on the ground have a guide rope to prevent the wounded man from being slapped against the wall by wind.

d. From Tanks

Very little mechanical equipment has been used to date in the rescuing of wounded from tanks. These wounded generally manage to get out under their own power, or are removed by other members of the crew.

For the seriously or painfully wounded, medical officers recommend the use of chloroform or morphine before removal from tanks. These drugs act quickly on the nervous system, and thereby greatly aid in the removal efforts.

3. METHODS OF TRANSPORTATION

According to reports from India, the British have experimented successfully with two improvised methods of ferrying wounded across water. The principles involved in both cases are the same—that of tying up lighter-than-water materials in waterproof ground

sheets¹ to form "floats," to the tops of which are fastened some form of stretcher.

a. Bundle Float

In improvising this type of float, the following equipment is required:

Eight ground sheets, 4 bamboo poles, 8 yards of rope, and such stuffing material as straw, paper, or cotton waste.

The float is constructed as shown in figure 12. Each of the four floatable and waterproof bundles is made approximately 3 feet long and 1 foot wide. Two ground sheets are spread out, one on top of the other, and a sufficient amount of stuffing material is placed on them. The material is then bundled up and tied by rope. Allowing the second ground sheet of each bundle to overlap the fastening of the first will aid in making the float waterproof. The bamboo poles are tied together and then made fast to the bundles, as shown in the diagram.

b. Stretcher Float

For this float, the ordinary stretcher used by the British Army is tied securely to the top of eight improvised floating bundles. The details of construction and meth-

¹ A ground sheet is a combination rain cape (when used for a rain coat) and covering to spread on the ground under the individual soldier's tent. It is a rubberized, waterproof canvas which is square except for a flap on one side. This flap is primarily for the purpose of protecting the soldier's neck and head when the ground sheet is used as a rain cape. In some cases, the British soldier is issued two sheets, one of which he carries in his pack.

ods of using the float were described by an observer as follows:

Two teams (total of eight men) of stretcher bearers, wearing full equipment and gas masks, carry the loaded stretchers to the edge of the water. Each man removes all his equipment and

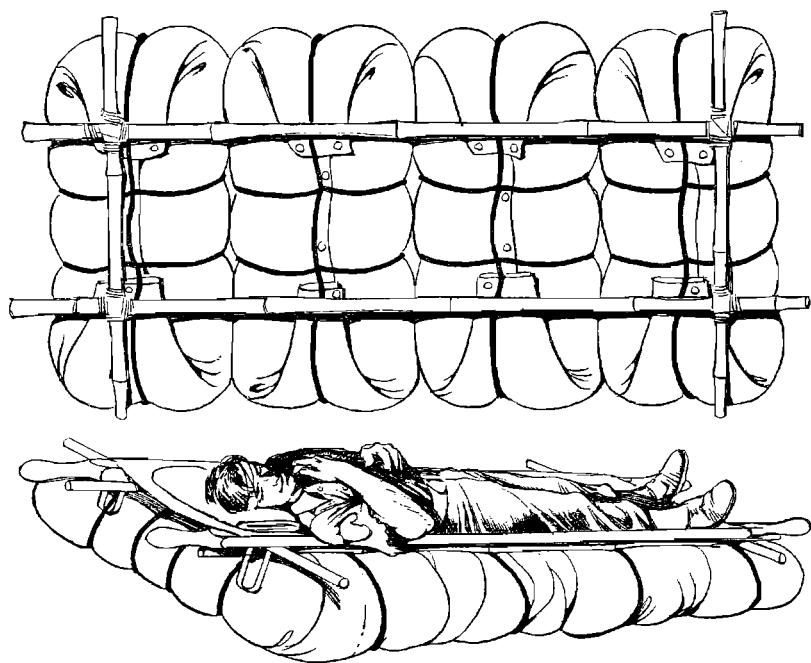


Figure 12.—Bundle Float

clothing; he empties his water canteen and mess kit (if they are full), and replaces the latter in his pack.

Each man then spreads his ground sheet flat on the ground. About 11½ feet from one end, he places his webbing equipment and pack (including mess kit and emergency ration can), his water bottle, and his clothing. These are arranged to form a

bundle approximately 1 foot square. He then folds the two sides of the ground sheet up over the equipment, and rolls it up—much like the U. S. soldier rolls his blanket in his shelter half. After the rolling has been completed to within 9 inches of the loose end of the ground sheet, the end is flapped back over the roll, or bundle, which is tied with the soldier's bedding rope. String and roller bandages can also be used.

The eight bundles or individual "floats" are then tied to the stretcher by the free ends of the ropes used to secure the bundles. One bundle is tied to each of the four handles of the stretcher and one is tied to each of the four Thomas splint suspension bar attachments—there are two on each side of the stretcher. The bundles are secured as close as possible to the stretcher.

Four of the stretcher bearers then tie their shoes together by the laces and place them alongside the patient, with the soles next to the patient's body. These four men—one team—then lower the stretcher into the water and pilot it across.

The bundles are detached from the stretcher upon reaching the shore, and are tied together and returned by a stretcher bearer so that they can be attached to a second stretcher, which is ferried across in the manner previously outlined—by the second stretcher team.

The bundles are likely to get wet inside if the ground sheet has leaks or if it has not been rolled and tied properly.

In an emergency it is practical to use only four bundles—one tied to each handle of the stretcher. This method, however, is considered unreliable, and is more uncomfortable for the patient.

If the patient's condition is not too serious, the stretcher bearers' gas masks can be placed on the stretcher with him and carried across.

Section II. SOME BRITISH TRENDS IN COMBAT FIRING

1. GENERAL

Combat firing is being stressed in courses at the British Infantry School. Our observers, in a recent report, point out that the basic British instruction in this subject is very similar to that taught at the U. S. Infantry School and training centers, but that the British are specializing to a higher degree in the more minute phases of the training. Such specialization is believed to increase all-around proficiency, and to contribute to good fire discipline.

The British teach combat firing to individual squads (British sections), and each member thereof must previously have received thorough training in known-distance firing.

2. FIRE AND MOVEMENT

As in U. S. courses in combat firing, the main British theme is fire and movement. Since the British squad consists of a Bren-gun group and a rifle group, teaching the mechanics of fire and movement is very simple.¹

¹ The Bren gun is the basic automatic weapon in the British Army. It is a .303-inch caliber light machine gun, air-cooled and gas-operated, which for fire power and operational purposes can be compared to the U. S. Browning automatic rifle. This gun is often mounted on a tracked vehicle (known as a universal armored carrier) which is popularly called the "Bren gun carrier."

When a squad leader desires to move his unit forward under enemy fire, he is taught to get his Bren gun into a new position under the cover of his rifle fire. After the Bren gun has reached the forward or flanking position, the riflemen advance, in turn, under cover of fire from the Bren gun. Variations of these methods are also taught by the British.

3. SPECIAL METHODS

The following special items of interest to squad leaders in combat firing are also included in the British courses:

a. Signaling with Bren Gun

The use of fire from a Bren gun to give signals is considered especially useful to a squad leader on the battlefield. If his Bren gun is separated a considerable distance from the remainder of the squad, and if a particular action is planned at a given time, the firing of the Bren gun during a lull in the battle makes an excellent signal. The best type of signal appears to be a series of single shots followed by a short burst of fire, or any such simple combination previously agreed upon.

b. Special Uses of Bren Gun

British Bren gunners are given special instructions to make them proficient in firing their weapons from

elevated positions. The gunner and his assistant are given detailed training in climbing trees, clambering up the sides of houses, or getting up on any other elevated object. The British teach, in great detail, the theory of covering a reverse slope by what normally would be plunging fire. In this instruction, both riflemen and Bren gunners are cautioned about the need for more accurate fire in case the beaten zone is a level surface.

In this plunging-fire instruction, the types of gun positions most frequently used are roofs of houses, window sills of upper stories in buildings, trees with sufficient height and stability to permit operation of the Bren gun at some distance from the ground, crests of small ridges, and so forth.

c. Stress of Fire Superiority

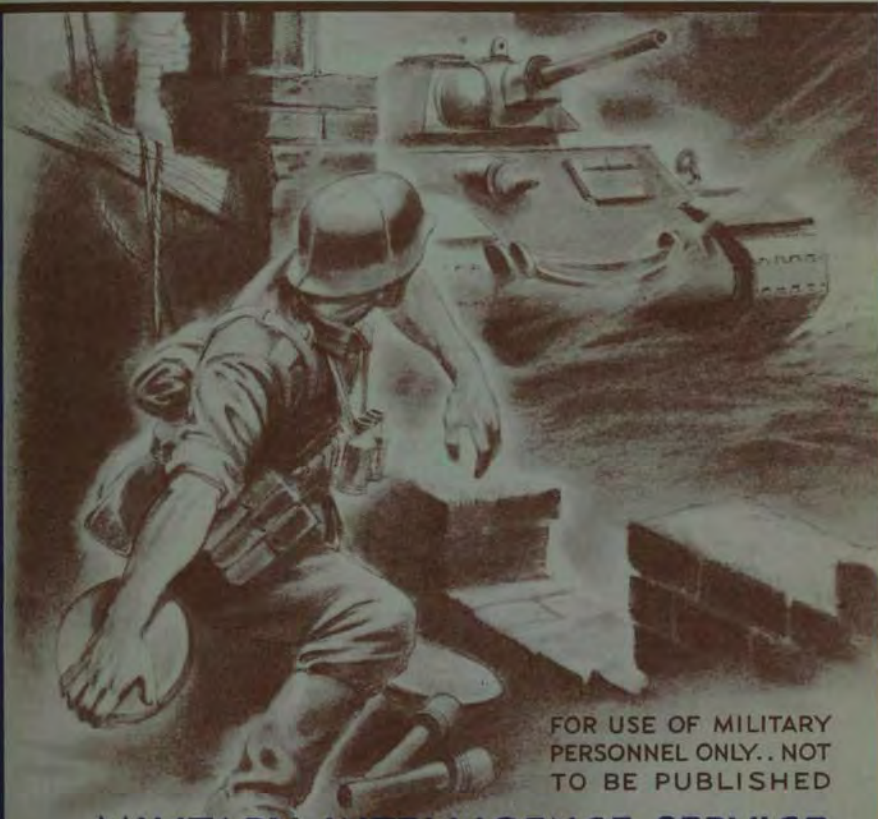
As in U. S. infantry training, the British stress the importance of fire superiority. In this the Bren gun plays an important part. For example, the Bren may be sent to a flank to silence an enemy machine gun which is holding up an advance. The Bren gunner is also taught methods of neutralizing enemy fire at a time when the enemy is covered by smoke—the British believe that an enemy, advancing in reasonably close combat without being able to see, will be demoralized more quickly by automatic fire than by rifle fire.

Pass this on!

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AUGUST 1943

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It is recommended that the contents of this bulletin be utilized whenever practicable as a basis for informal talks and discussions with troops.

Readers are invited to comment on the use that they are making of the *Intelligence Bulletin* and to forward suggestions for future issues. Such correspondence may be addressed directly to the Dissemination Unit, Military Intelligence Service, War Department, Washington, D. C. Requests for additional copies should be forwarded through channels for approval.

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PART ONE: GERMANY

Section I. U. S. WOUNDED DISCUSS AXIS MINES AND BOOBY TRAPS

1. INTRODUCTION

A number of U. S. soldiers, who were wounded by Axis land mines and booby traps during the Tunisian campaign, have made interesting and useful comments based on their experiences with such devices. The following extracts from their remarks should be regarded as supplementary to three articles which have appeared in previous issues of this publication: "Booby Traps" (*Intelligence Bulletin* No. 1), "Minefields in Desert Terrain" (*Intelligence Bulletin* No. 5), and "Recent Trends in the Use of Mines and Booby Traps" (*Intelligence Bulletin* No. 10).

2. COMMENTS BY U. S. WOUNDED

We had laid a good many British Mark V mines in the approach to Faïd Pass. The Germans, realizing that we were about to lift our own minefield, sneaked up at night and booby-trapped the mines on the edges nearest them with antilifting devices.

When the Germans lay their "bouncing babies" ["S" mines]¹ in shell holes and craters, they generally set the mines for pressure.

¹ Several of the most widely used types of enemy mines, including the "S" mine, are described and illustrated in this issue. See pp. 8-19, 29-31, and 43-46.

What the enemy hopes is that our boys will hastily jump into the holes to take cover, without even suspecting the presence of mines. It doesn't take our men very long to learn that the enemy is always trying to outguess us, that he's smart, and that caution pays.

I'd like to say something about "double bluffs," as we call them. You see something which looks like a trip wire, and which would ordinarily lead to a pull-igniter. The wire is taut. Also, it's out in full view—suspiciously so. If you cut the wire, a hammer sets off a charge of some kind—perhaps not a mine at all. It's just another instance of the enemy trying to outguess us.

You've probably heard about the German "butterfly bombs."² A shallow foxhole usually affords sufficient protection against butterfly bombs, but who digs a shallow foxhole any more when he has time to dig a deep one? That's one thing I've certainly learned—to dig deeper and feel safer.

An important point to remember about enemy methods is that they aren't cut-and-dried. You can't depend on the Axis always doing the same thing, day in and day out. The enemy goes in for variety to catch us off our guard.

I can certify that going blindly up a gully which may be the wrong one is a damn fool stunt! The reason I lost a leg is simply this: I didn't pick out landmarks carefully enough in the daytime, and when I was retracing some ground in a jeep at night, I deviated just a little from a route I'd gone over only once before. I was heading for a certain gully. Instead of being absolutely sure that I was entering the right one, I took a chance and entered what I vaguely guessed was the right gully.

² Butterfly bombs are dropped in a container which holds 23 bombs and which is fuzed to open after falling a predetermined distance from a plane. Each butterfly bomb, in turn, is fitted with one of three types of fuzes: (1) A fuze designed to operate while the bomb is still in the air, or on impact; (2) a clockwork fuze which can be set to function at any time up to 30 minutes after the bomb becomes armed; (3) a highly sensitive antihandling (booby trap) fuze which becomes armed on impact, but does not detonate until subsequently disturbed.

A Tellermine got the jeep, and it got me, too. What I should have done was to go back a bit and get my bearings.

If I were to go through the North African campaign again, I'd train myself better in using my eyes at night,³ and I'd form the habit of noting landmarks more carefully during the daytime. Even though a lot of terrain features are lost at night, there's always a good chance that a remembered landmark will remind you of the position of another, in relation to it.

If you see a sign saying *Achtung! Minen!* or "Attention! Mines!", that's one time when you want to believe in signs! We learned not to play the smart-aleck game of firing or throwing stones at objects in an area where there was a warning sign. This kind of tomfoolery sometimes disturbed delicate mines and booby trap mechanisms so that they were harder to detect and neutralize later. Also, there was an ever-present danger of "sympathetic detonation," whereby one explosion would cause another—and of course you couldn't predict where.

I lost my right hand by picking up a German "egg" grenade that I saw lying on the ground, with its pin apparently in. Feeling confident that it was safe, I went right ahead and picked it up. It hadn't occurred to me that fine piano wire might lead from the other end of the grenade to a stake sunk into the ground directly underneath.

Something even worse happened to a British squad leader I knew over in Tunisia. The squad came across a nice German Luger [semiautomatic pistol] lying on the ground, just waiting to be picked up. The squad leader was wary. He said, "It's probably booby-trapped. I want all you men to stand aside and watch carefully while I show you a safe way of testing it." He tied a cord to the trigger guard, and carried the other end of the string over to a foxhole, which was about 15 or 20 feet away. "Now here's what I'm going to do", he said. "I'll crouch

³ The reader is referred to "How to Use Your Eyes at Night," *Intelligence Bulletin* No. 6, p. 66.

in the foxhole, and draw the cord so that the Luger will move and detonate any pull-igniter which may be attached to it."

The squad leader jumped into the foxhole, and instantly there was an explosion. The Germans, anticipating just what his line of reasoning would be, had mined the foxhole with a couple of "bouncing babies" set for pressure and, incidently, hadn't even bothered to booby-trap the Luger at all.

I'd like to say something very frankly to fellows who haven't yet had experience in fighting the Germans. Everybody in my outfit will back me up in this, too. Remember that the enemy is just as smart as you are, and possibly smarter. Don't be careless—this is just what the Germans hope you *will* be. And don't form the habit of showing off, either. Cockiness can be the curse of green troops.

When the Germans abandon a gun position, they are likely not to lift the mines surrounding it. Instead, the enemy leaves them there for us to stumble onto, later on.

The Germans think ahead. They try to anticipate what we'll do under every circumstance. If our fellows take this fact into account every minute, and move as surely and as carefully as Indians, they aren't going to be caught unaware.

It's true about Tellermines being laid in the shoulders of roads, especially where vehicles are likely to swerve out somewhat, as on turns. I was the guard in a jeep that got blown up that way. Two men were killed, and I lost my right leg and my left foot. I'd been over the road once before, but it was the driver's first time. There's a possibility that the mine had been laid at night by a German slipping back into our territory, but of course it may have been there all the time. We went over on the shoulder as we rounded a curve, going a little too fast.

Our M3 tanks were advancing across a plain, and were engaged in hot and heavy action. A Tellermine got the left track of my tank. None of us realized that the track had been

smashed; we didn't notice this particular explosion, and we weren't thrown against the sides of the tank or anything like that. We were in the heat of battle, and were firing continuously. I tried to back off to execute a maneuver, and only then did I realize that the track was broken and off. At this point we were hit by an 88 and were set on fire. I gave the order to abandon the tank. The driver was wounded as he was climbing out.

A couple of minutes later I was lying on my belly, keeping as well down as possible and trying to dress the driver's wound. He was lying on his back. There was a hell of a lot of action going on. More than ever. I happened to move my leg just a little, and it may have caught a wire which detonated an anti-personnel mine. I hadn't noticed any wire, because I'd been so busy trying to dress the driver's wound and meanwhile avoid all the fire which was going on overhead. Maybe the pressure of my foot or leg would have been enough to detonate a pressure-type igniter—even while I was lying prone. I'm not sure about this.

[NOTE.—It is entirely possible. The soldier in question is heavy-set, and, when he shifted his leg, he may have brought it down on the igniter with considerable force.]

The terrain was characterized by sandy stretches and grass clumps. Even though I was in a mighty hot spot, I wish now that I'd investigated the ground in that immediate neighborhood for trip wires, or for those little three-pronged igniters that stick up just above the ground, or for suspicious signs of any kind. When I realized that a Tellermine had got our tank track, I should have had sense enough to suspect the presence of antipersonnel mines, too. The Germans very often lay "S's" and other antipersonnel types near their "T's."

I don't want to sound at all boastful, but up until this time I hadn't felt nervous, and honestly I still didn't. Perhaps it was because so much hell was popping that no one thing had a demoralizing effect. Anyway, when the mine got my foot—it put

a good many fragments here and there in both legs, too—I had to leave the driver and start crawling back across the plain. I crawled back more than a mile. I kept looking for buried mines, too, believe me! Eventually I was discovered by a British tank.

The Germans use mines so liberally, especially when they're on the defensive, that you've got to suspect every inch of terrain. I'm not trying to make a high-sounding statement for effect. I'm speaking literally!

The Germans mine natural tank runs. During a withdrawal they are especially likely to lay Tellermines in positions that afford good defilade for tanks.

By and large, you won't find booby traps in places that are inaccessible. If you make your own trail, you're likely to be a lot safer.

We soon learned to leave suspicious-looking objects alone and notify the engineers. Once my platoon worked for the better part of a day in a little clearing, paying absolutely no attention to a beautiful silver watch that lay on the ground right smack in the middle of it. When we finally left the clearing, the engineers still hadn't come up. Even so, we left the watch lying there. Don't think we didn't arrive at this state of discipline through experience, though!

In paths and defiles the Germans used a number of antipersonnel switches that they had captured from the British. An antipersonnel switch is a pressure-release device, shaped like a pencil.⁴ It usually is sunk in a path or narrow defile and its $\frac{3}{4}$ -inch tip concealed with mud, dirt, or leaves. It projects a bullet upwards. Our nickname for these switches is "castrators"—but most of the time what they really do is go up through your foot, or through the tire of a vehicle.

⁴ For further details about the British antipersonnel switch, with a sketch, see pp. 80-82.

Section II. TELLERMINE, "S" MINES, AND NOTES ON THEIR USE

1. TELLERMINE (FOUR TYPES)

The German Tellermine¹ is widely used against tanks and other vehicles. References to the tactical employment of this weapon have appeared frequently in the *Intelligence Bulletin* (see index, p. 83). To date, four different versions of the mine have been encountered.

a. Tellermine No. 1 (see figs. 1 and 2)

This circular mine, which contains 11 pounds of TNT, is about 1 foot in diameter. It has a slightly dome-shaped lid, from the center of which the top of the striker mechanism projects. The mine is detonated by a weight of about 300 pounds. As secondary firing devices, for booby trapping, pull igniters may be screwed into the sockets in the side (opposite the handle) and bottom of the base.

(1) *To Arm*.—Turn the screw on top of the igniter so that the white dot on it is moved opposite the white

¹ *Teller* is the German word for "plate," and is intended to suggest the appearance of the mine. To many Americans, however, the weapon looks more like the lid of an old-fashioned ice cream freezer.

mark (*Sicher*—safe) to the red mark (*Scharf*—danger). After burying the mine or concealing it with appropriate camouflage, withdraw the safety pin by means of the wire attached to it.

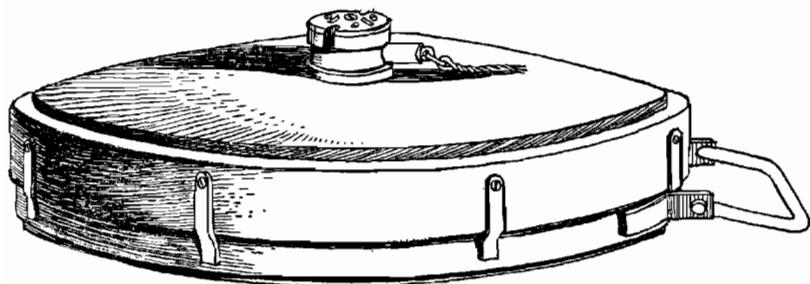


Figure 1.—Tellermine (German antitank) No. 1.

(2) *To Neutralize.*

(a) With finger and thumb, gently try to push the safety bolt all the way in. If the bolt will not go in easily, leave it alone.

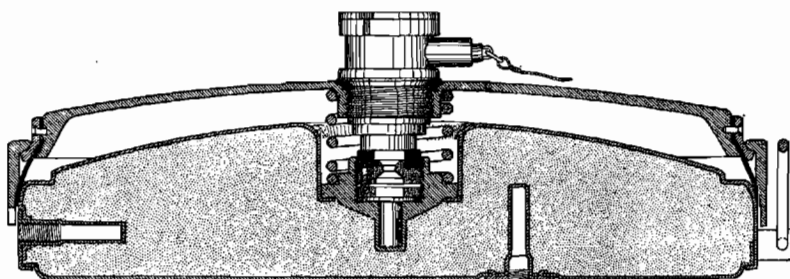


Figure 2.—Tellermine No. 1 (cross section).

(b) Turn the screw on the igniter so that the red dot is opposite the white mark (*Sicher*). If it will not turn easily, leave it alone.

(c) Since the mine may be booby-trapped, do not attempt to lift it by hand until you have neutralized the side and bottom igniters (if they are present). Carefully find the handle of the mine, and then neutralize the igniter on the opposite side. Find the bottom igniter, which is about halfway between the handle and the center, and neutralize it.

(3) *Comments.*

(a) If the mine has been fought over or subjected to blast, or if the safety bolt or screw on the igniter offers resistance, unscrew the igniter from the mine. Push home the safety bolt, turn the safety screw to *Sicher*, and replace the igniter in the mine. If the safety bolt will not go in, or if the screw will not turn, the igniter is unsafe and must not be put back in the mine.

(b) If the risk of detonation can be accepted, the precautions outlined in (c), above, may be omitted, and the mine may be pulled clear of its position by means of a 50-yard length of signal cable tied to the handle.

b. Tellermine No. 2 (see fig. 3)

This mine, which is similar to Tellermine No. 1, is circular in shape and about 1 foot in diameter, has a slightly dome-shaped cover, and is painted dark gray. It contains 12 pounds of TNT. Tellermine No. 2 differs, however, in that its pressure plate is fluted and covers only about half of the top of the mine; also the main igniter is intended to be slid, rather than screwed, into its socket.

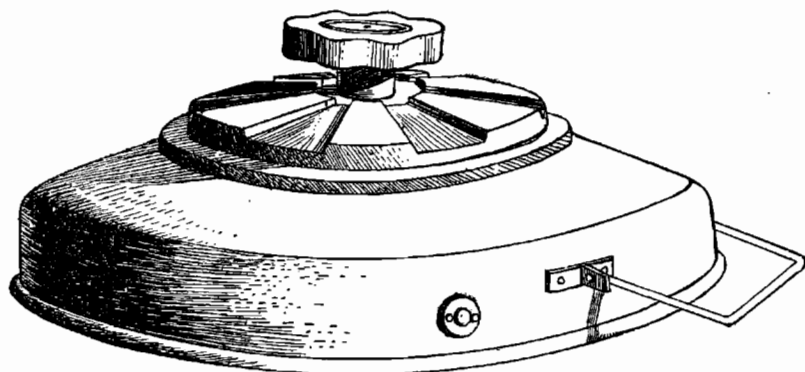


Figure 3.—Tellermine No. 2.

The pull-igniter sockets are in positions different from those in Tellermine No. 1. The side socket is 4 inches from the handle, and not opposite it. The bottom socket is 2 inches from the center.

(1) *To Arm.*

(a) Unscrew the six-sided nut, and push in the igniter assembly, together with its detonator. The latter should be attached to the bottom of the igniter.

(c) Screw down the six-sided nut tightly.

(2) *To Neutralize.*

(a) Unscrew the six-sided nut.

(b) Remove the igniter and detonator.

c. Tellermine No. 3 (see fig. 4)

This also is similar to Tellermine No. 1, but has a fluted top and is adapted to take either the German standard brass igniter or the igniter assembly of Tellermine No. 2. In this latter case, after the igniter

assembly has been inserted, the screw cap is replaced on top. (This mine has also been found with a screwed "adaptor," instead of the cap.) The additional igniter sockets are situated as in Tellermine No. 1.

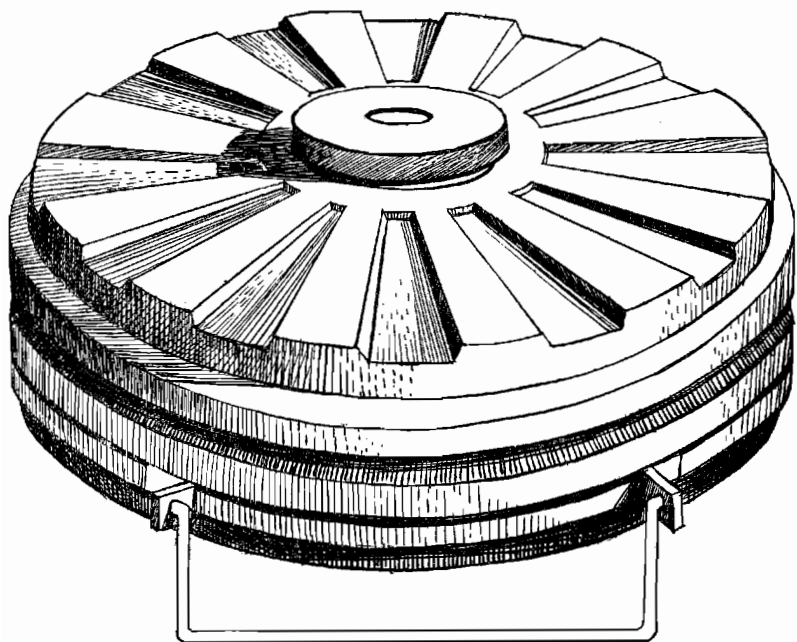


Figure 4.—Tellermine No. 3.

d. Tellermine No. 4 (see fig. 5)

The chief difference between this and the other Tellermine is that the cover plate of the No. 4, which is $7\frac{1}{2}$ inches in diameter and painted black, is entirely separate from the body. Neither the cover nor the body is fluted. The additional igniter sockets are situated as in Tellermine No. 2.

The mine functions when pressure on the cover plate crushes it down on the igniter, which is like that of the Tellermine No. 2.

(1) *To Arm.*

- (a) Unscrew the cover plate.
- (b) Insert the igniter assembly.
- (c) Replace the cover plate.

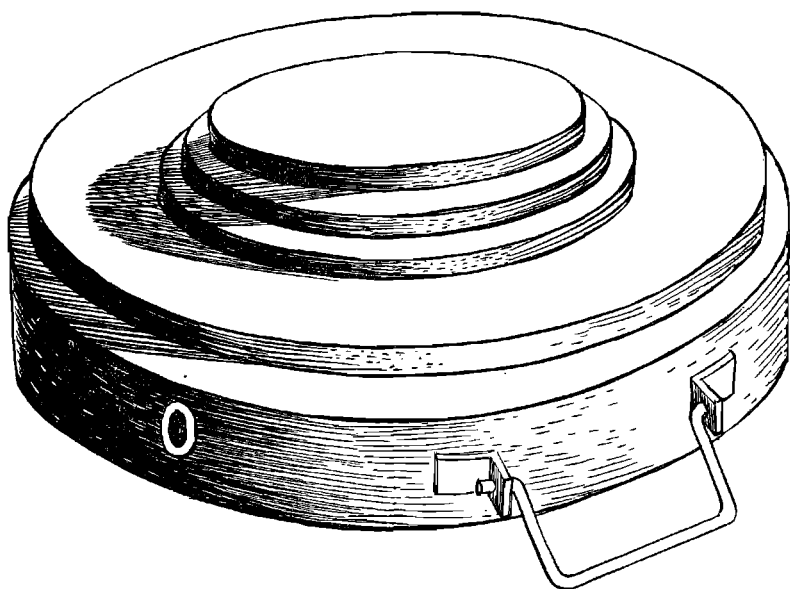


Figure 5.—Tellermine No. 4.

(2) *To Neutralize.*

- (a) Examine the mine for additional igniters, and neutralize them.
- (b) Unscrew the pressure plate, and remove the igniter assembly.

e. Comparison

The pressure plates on Tellermines No. 1 and No. 3 extend over the entire top of the mines, but the pressure plates on Tellermines No. 2 and No. 4 cover only the center portion of the mine. Accordingly, a tank might pass over the edge or rim of Tellermines No. 2 and No. 4 without detonating the mines, whereas the same load passing over the edge or rim of Tellermines No. 1 and No. 3 would detonate the mines. It is possible for a spread-out load of fairly low intensity covering the whole top of Tellermines No. 1 and No. 3 to detonate them, while a heavier and more concentrated load is necessary to detonate Tellermines No. 2 and No. 4.

2. "S" MINE² (see fig. 6)

This antipersonnel mine, widely known to U. S. soldiers as the "bouncing baby," is cylindrical, and about 5 inches high and 4 inches in diameter. When it is fired, it is projected from 3 to 5 feet into the air, where it explodes and scatters approximately 350 steel balls in all directions. Sometimes the mine is filled with small diamond-shaped pieces of steel, instead.

a. To Arm

Unscrew the plugs and insert three standard non-electric detonators, open end downwards, in the detonator tubes. Replace and screw in the plugs. Remove the screw cap, and screw any of the three types of igniters on the tube, making sure that the safety pins

² *Schutzmine*—protective mine.

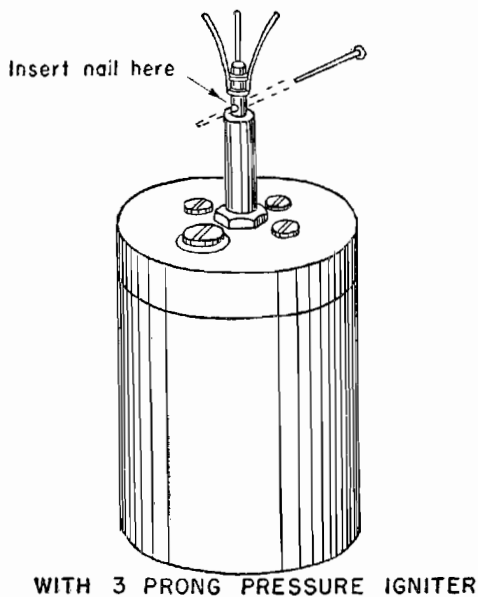
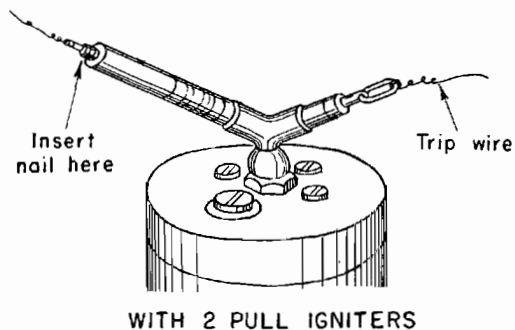


Figure 6.—“S” (German antipersonnel) Mine.

are in place. Finally, after the mine has been laid, remove the safety pins.

b. To Neutralize

The method of neutralizing an "S" mine depends on the type of igniter with which it has been armed. The most common method of arming is with the standard 3-prong pressure igniter. Another method is that of using one or two standard pull-igniters. When these are used, an adaptor is fitted. A third method is that of using the 3-prong pressure igniter (electric).

(1) *With Standard 3-Prong Pressure Igniter.*—Insert a nail into the safety pin hole, and unscrew the igniter.

(2) *With Standard Pull-igniters.*—Insert a nail into the safety pin hole, and cut the trip wires. Unscrew the igniters. Inspect the other end of each trip wire for other "S" mines or booby traps.

(3) *With 3-Prong Pressure Igniters (Electric).*—On finding a 3-prong pressure igniter (electric) with a wire leading away from it, trace the lead until you find the "S" mine. Cut all wires leading from the mine. The Germans often lay a number of these electric igniters within effective radius of a single mine.

3. NOTES ON TACTICAL USE OF MINES

The following instructions dealing with certain aspects of the tactical use of land mines have been extracted from a German Army training document. The instructions apply mainly to German use of these devices in retreats and withdrawals.

a. The use of land mines may enable even a weak defending force to maintain its positions.

b. "Wild" minelaying may hinder our own troops; therefore, "planned" laying is essential.

c. The decision to lay mines is made, and the tactical purpose of minefields is decided on, by divisional or higher commands. Commands of smaller, independent units may also make such decisions in an emergency. Repair of damaged minefields may be ordered by sector commanders, and is a task for the engineers.

In an emergency—for example, in defense against tank breakthroughs—Tellermines (only) may be laid by any commander responsible for holding a position.

d. Tellermines are primarily for use against tanks; "S" mines are primarily for use against personnel. "S" mines may be negotiated by tanks without danger to their crews.

For all purposes—against tanks, motor transport and other vehicles, and personnel—improvised mines may be used. These are exploded by pressure, trip wires, or the cutting of taut wires.

e. Mine plans will be drawn up for every minefield. These will clearly show the types of mines employed. In doubtful cases, the types of igniters will be shown.

The careful drawing of mine plans is the duty of the unit responsible for laying the mines.

Mine maps are also very important. These are large-scale maps (1:10,000 or 1:25,000) showing the whole layout of the minefields. In addition, for each minefield or each instance of scattered minelaying (such as the mining of roads and paths) a plan 1:2,500 must be drawn up, giving the exact position of the minefields and the number and types of mines employed, together with map references and distances. Every corner or gap must be pin-pointed by the use of two references.

The headquarters responsible for the laying of the mines will forward mine maps to its superior headquarters, up to and including Army headquarters, and down to battalions.

Mine plans will be sent to the engineer battalion, Army headquarters, and Engineer Directorate at the *Oberkommando des Heeres* (High Command of the Army). Full details, in writing, must be handed over to relieving units. The relieving unit has the right to ask for a handing-over party to show the minefield on the ground. Arming pins and safety pins must also be held by the engineer battalion concerned, and must be handed over similarly.

f. The headquarters responsible for ordering the laying of mines will also give orders as to whether they are to be armed or not, according to the situation. In any case, it must always be possible to arm a minefield at a moment's notice.

g. Minefields containing Tellermines which are laid for long periods, whether armed or not, must always be fenced if they are within our [German] main battle position. When the minefields are in our advance area, they should be fenced in a manner similar to the rest of the wiring in no-man's land.

It has been found useful to lay, at the same time, strands of ordinary wire connecting with our own positions. These strands serve to guide our own patrols when they crawl forward.

Minefields containing "S" mines must, at all times, be fenced against accidental entry by our own troops. Such fences should be unobtrusive, and should be changed frequently.

If "T" mines are used in "S" minefields, they should be laid on the edge of the field facing the enemy or on the flanks. This hinders the enemy from neutralizing the minefield by driving over it with his tanks. If time allows, the "T" mines may be armed against removal by a pull-igniter underneath.

"S" mines laid in "T" minefields should be laid in blocks, with regular intervals between blocks and between mines.

Unauthorized laying of "T" and "S" mines is forbidden.

h. If minefields have been fired over or passed over by vehicles, personnel will experience certain difficulties in lifting the mines, and in such minefields the following mines should be detonated:

(1) Those which have been moved from their original positions.

(2) Those which have been damaged.

(3) Those with mechanisms which resist disarming, even to a slight degree.

The mines in irregularly laid minefields of any type will be donated.

Section III. TANK HUNTING

1. COMBAT PRINCIPLES

In all branches of the German Army, outstanding soldiers are chosen to serve as members of tank-hunting squads. These squads, each consisting of a leader and at least three men, are given special training. Like the combat engineers, they are continually ready for close-in combat with tanks and other armored vehicles.¹ When a need arises, squads are combined into tank-hunting groups. In general, the Germans use tank hunters if there are no armor-piercing weapons at hand, or if the fire of these weapons fails to prove effective against attacking tank forces.

The equipment for close-in tank hunting consists of incendiary bottles, Tellermines, TNT, automatic weapons (both German and captured), submachine guns, Very pistols, hand grenades, smoke grenades and candles, flame throwers, crowbars, hatchets, and camouflage material.

It is a German principle that hostile tanks and infantry must be separated so that they may be destroyed more easily. If armor-piercing weapons are available, their fire is directed against the approaching

¹For simplification, this article will hereafter mention tanks only.

tanks, while the remaining weapons are used primarily against the infantry accompanying the tanks. Infantry riding on tanks are destroyed before the tank hunters attempt to assault the vehicles. If the tanks arrive without infantry, the fire of all available weapons is concentrated against the vulnerable parts of the tank, to create conditions favorable for close-in assault. If this fire support by other weapons is impossible, the tank-hunting squads proceed without it.

The carrying-out of close-in combat largely depends on the immediate situation. The number, types, and tactics of the attacking tanks, the terrain, the Germans' own position, and the effect of German defensive fire always vary, and the tank hunters attempt to meet this variation by showing adaptability and maneuverability. A tank-hunting squad assaults only one tank at a time. If several tanks attack together, and if only one tank-hunting squad is available, the squad assaults that tank which appears to be the most dangerous at the moment, or which promises the quickest success if attacked. If enough squads are available, the Germans make an effort—especially in defense—to hold one or more squads ready, in the rear, to assault tanks which break through.

The general procedure for tank hunters is: first, to blind the tank, then to halt it, and finally to destroy the vehicle and its crew in close-in combat.

Whether the tank hunters advance at the beginning of a tank attack, whether they remain in their fox-holes until just before the assault, or whether they conduct the entire assault from under cover depends

entirely on the situation. The foxholes are narrow, and have no parapets; this makes them harder to identify. They are well camouflaged with local brush and, whenever possible, are surrounded by a belt of Tellermines. (In village fighting, the corners of houses, and even bushes and fences, serve as hiding places from which tank hunters make their close-in assaults.) Obstacles of all kinds, dummy mines and guns, and signs saying "Warning! Mines!" are used to lead hostile tanks into terrain unfavorable for them, but tactically advantageous for the assault squads and antitank weapons.

The tactics employed by tank hunters of course depend to a considerable extent on whether the tanks are moving, or have halted voluntarily or involuntarily.

When preparing to attack a moving tank, the tank hunters, remaining well concealed, permit the tank to come close to them (20 to 7 yards). Then, by blinding the tank, they try to halt it or at least slow it down. By using explosive charges, the tank-hunting squad makes an effort to destroy the tracks of the tank and cripple it. The final step is to assault the tank, and destroy it and its crew.² In the case of a halted tank, the squad stalks up on it, using the terrain to the best possible advantage.

Around every tank there is a "dead space" which it cannot cover with its principal weapons. The higher a tank, the larger, as a rule, is its dead space. In general, the radius of dead space from

² Close-in combat weapons and how the Germans use them in the "Blind, halt, and destroy" procedure are discussed in paragraph 2 of this section.

the turret gun is about 20 yards; from the machine gun, about 10 yards (see fig. 7). To combat targets

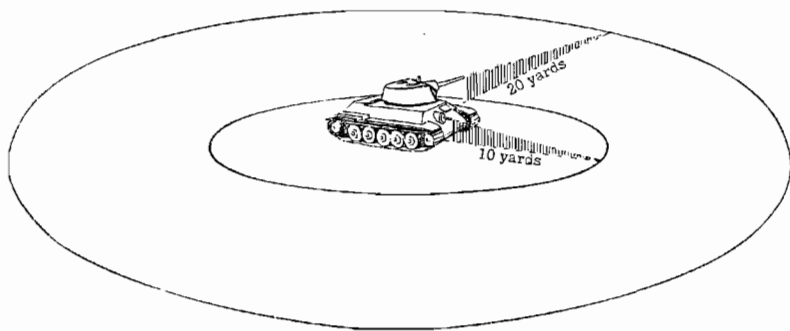


Figure 7.

in the dead space, tanks have slits through which pistols and submachine guns can be fired. When assaulting a tank, German tank hunters make all possible use of the dead space. They try to approach a tank from the direction opposite the direction of its principal weapons. This is also opposite the direction of its principal observation (see fig. 8).

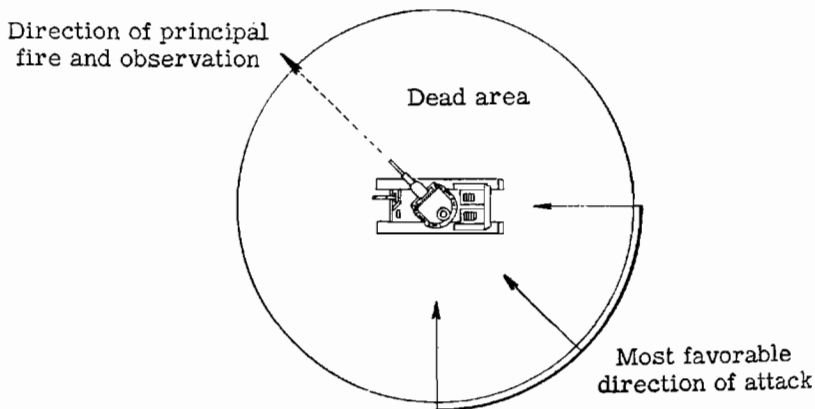


Figure 8.

The tank hunter with the principal close-in weapon uses it against the tank while the other tank hunters support him with their fire. If he is hampered by this fire, the others cease. If members of the tank crew, becoming aware of the assault, open the turret hatch in order to defend themselves with hand grenades, the tank hunters seize this moment to fire against the open turret and wound the crew. German doctrine states that crews of stalled or burning tanks who do not surrender when getting out will be destroyed in close combat. If the tanks are still undamaged, the Germans render them useless by removing the guns' breech blocks, by damaging the guns, and by setting fire to the gasoline tanks.

2. TANK-HUNTING WEAPONS AND THEIR USE

The tank-hunting squad is equipped with blinding, incendiary, and explosive materials. (Some of these serve a double purpose. For example, flame throwers are used not only as incendiary agents, but as blinding agents.) The type of armored vehicle, its position, and the terrain determine which of the available weapons are to be used and how the employment of several may be combined. The leader of the tank-hunting squad is obliged to decide quickly which to adopt under the circumstances.

The following comments on these weapons and their use have been extracted from a German Army document.

a. Blinding Agents

(1) *Smoke Candles and Smoke Grenades*.—Smoke candles or several smoke hand grenades, thrown in front of a tank with allowance for wind direction, interfere with its vision and force it to slow down.

(2) *Smoke*.—Ordinary smoke may be used. To produce it at the right moment, distribute straw or other highly inflammable material in the probable avenue of approach, drench it with gasoline or kerosene, and ignite it with signal rockets when tanks approach. The detonation of grenades and artillery shells also creates clouds of smoke. Moreover, the firing of armor-piercing grenades against the vision slits can be very effective. Smoke should be used only when a tank has come so close that we can no longer fire on it without endangering our own personnel and therefore must destroy the tank at close range.

(3) *Signal Rockets*.—Signal rockets shot against vision slits have a blinding effect, particularly at dusk and in total darkness; also, the vehicle is illuminated for our antitank weapons. (Note that signal rockets begin to burn only after traveling 25 yards.)

(4) *Flame Throwers and Incendiary Bottles*.—Flame throwers and incendiary bottles are aimed at vision slits.

(5) *Covering of Vision Slits*.—For this purpose a tank hunter jumps onto a tank, preferably from the rear, or approaches its side, and covers the vision slits or periscopes with a blanket, overcoat, shelter half, etc., or applies mud, paint, or grease. This is possible only when the tank is moving slowly or has halted, and when it is not supported by fire from accompanying tanks or infantry. A tank crew will be especially demoralized by the presence of an enemy on top of the tank.

b. Incendiary Agents

(1) *Flame Throwers*.—Flame throwers are aimed at weapon openings and engine ventilators to set a tank afire.

(2) *Incendiary Bottles*.—Incendiary bottles, which ignite when

they hit a hard surface and break, are thrown at engine ventilators, vision slits, and imperfectly closed hatches. (In street and house fighting, they are also used against personnel.) The bottles may be thrown in two different ways: A tank hunter may grasp the neck of the bottle and throw it by swinging his arm, or he may grasp the body of the bottle and pitch it as in shot-putting. In general, the position of the thrower will determine the type of throw. In a prone position he will not be able to swing his arm, and therefore will have to pitch the bottle. Whenever possible, it should be thrown like a stick hand grenade, because the accuracy of aim will be greater and the possible range will be increased.

(3) *Improvised Incendiary Bottles*.—When a tank approaches, the wick of an improvised incendiary bottle is lighted and the bottle is thrown. When it breaks, the fluid is ignited by the wick and is distributed over the tank and its engine. Generally the tank catches fire. If additional bottles are to be thrown against the tank, they need not be ignited before they are thrown. Even initially, a bottle without an ignition device can be used. After the bottle has broken against the tank, the liquid can be ignited with signal rockets, hand grenades, smoke candles, smoke grenades, burning torches, or burning gasoline-drenched rags.

(4) *Gasoline*.—Several quarts of gasoline are poured over the engine housing of a tank, and ignited in the manner described above. Gasoline may also be poured into the hatch, and ignited by a hand grenade.

(5) *Hand Grenades*.—Often a tank crew will open the hatch for better observation. This presents an opportunity to throw grenades in a high arc into the interior of the tank. The crew can thus be destroyed and the tank set afire. Sometimes it may be possible to open the hatches with crowbars or bayonets, and then to throw grenades into the interior.

(6) *Smoke Candles or Smoke Grenades*.—When smoke candles or smoke grenades are thrown inside a tank, they may set the tank afire, or at least force the crew to get out because of the thick smoke.

(7) *Signal Rockets*.—Signal rockets shot into open hatches with a Very pistol may set the tank afire.

c. Explosives

(1) *Hand Grenades*.—Hand grenades detonated in the muzzle of the cannon (see figs. 9 and 10) yield excellent results.



Figure 9.



Figure 10.

(2) *Blasting Slab*.—A slab of explosive weighing 1 kilogram (2.2 pounds), when placed on top of a tank, has about the same strength as a concentrated charge of seven hand grenades and can give the crew a severe shock. Two such concentrated charges can damage the turret hatch considerably, and for a short time leave the crew unable to fight because of the powerful concussion. Two or three such charges combined into a multiple charge, and tied on a curved board to be slid over the ground (like a ski), can damage the tracks so severely that they will soon break under use. Machine-gun and cannon barrels can be destroyed by two 1-kilogram charges tied together, hung like a saddle over the top of the barrel, and detonated. (A cannon barrel will be so bent that an attempt to fire the gun will completely destroy it.)

(3) *Concentrated Charges*.—The bodies of seven stick grenades are tied together securely with wire. Only the middle grenade is fitted with the usual handle, which has an internal igniter. This charge is ineffective against the armor or tracks of heavy tanks. But when it is exploded on top of the tank, its concussion is so great that the crew is knocked out temporarily.

The concentrated charge of 3 kilograms, which is found ready for use in the infantry engineer platoon, infantry engineer platoon motorized, engineer companies, and engineer battalions, will pierce about 60 mm of armor. It is best to place the charge over the engine or the driver's seat. The crew will be wounded by small fragments of the inner walls spattering off. Moreover, the concussion is unbearable.

A combination of several 3-kilogram charges is even more effective.

The throwing radius for a concentrated charge is 10 to 15 yards. When throwing the charge, the soldier must consider the length of the fuze (about $\frac{1}{2}$ inch burns in 1 second). The thrower aims at the tracks or at the belly of an approaching tank.

The concentrated charge can also be used as a multiple charge or as a slide-mine as described in paragraph (2) above.

(4) *Sliding Mines*.—Charges of 3 or 6 kilograms can be built into a two-sided skid. To secure this sliding mine against premature detonation, which can result from falling or turning over, two woodblocks should be inserted (see fig. 11).

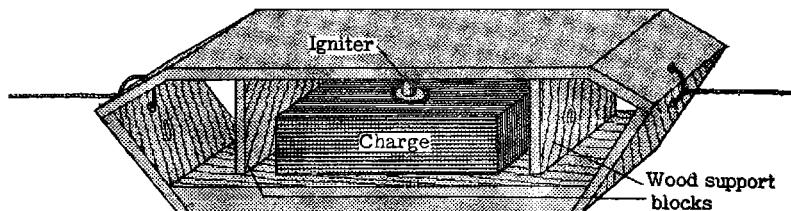


Figure 11.

Two to four sliding mines are linked together, and at each end of the group is a 20-yard cable or rope.

Tank hunters sit in two foxholes about 20 yards apart. The sliding mines are camouflaged and are placed somewhere between the holes so that they can be pulled in either direction. When a tank approaches, the mines are pulled under its tracks (see fig. 12). This sliding-mine technique may be employed on a larger

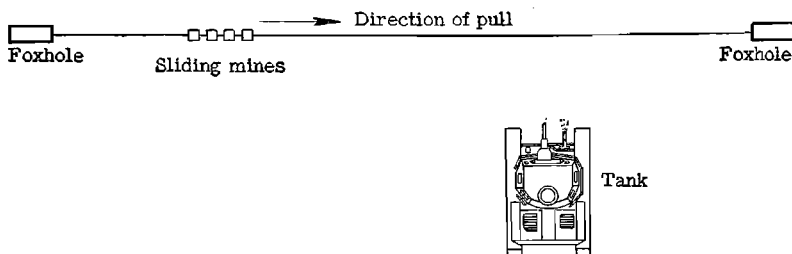


Figure 12.

scale by several pairs of soldiers using an extended series of foxholes.

(5) *Tellermine*s.—Instead of concentrated charges, Tellermine can be used, either as multiple charges or as sliding mines (see fig. 13). However, because they have a high radius of fragmentation, they can only be worked from splinter-proof positions. (Fig. 14 illustrates the springing of a turret.)

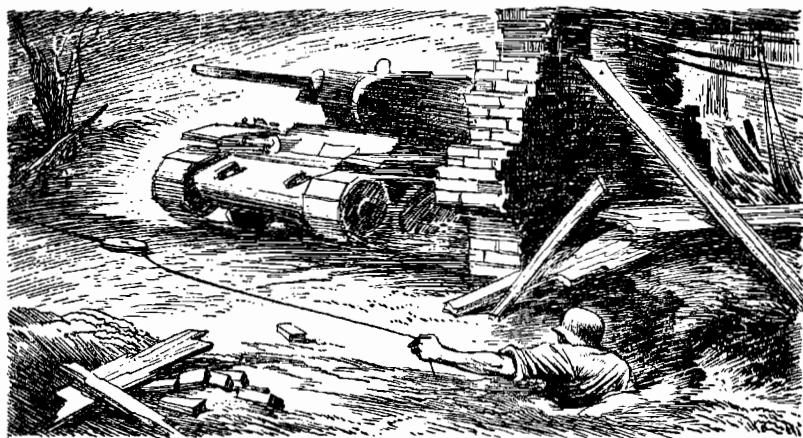


Figure 13.



Figure 14.

d. Crowbars and Hatchets

Crowbars and hatchets are used to bend the barrels of machine guns (see fig. 15).



Figure 15.

3. ASSAULT DECORATION

Tank hunters and other German Army personnel who destroy tanks in close-in combat are awarded an assault decoration (see fig. 16), which is worn on the upper right sleeve.

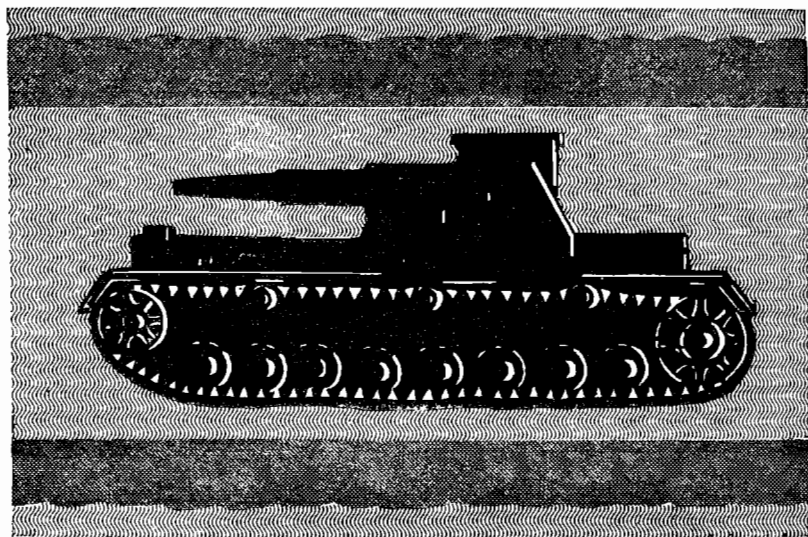


Figure 16.—German Assault Decoration.

Section IV. ENGINEER ASSAULT TACTICS

1. INTRODUCTION

This section deals with German engineer assault tactics developed since the battle of Crete. Since the information has been obtained from German prisoners of war (engineers) captured in Tunisia, it should be accepted with the reservations customary under such circumstances.

2. ATTACKS ON PILLBOXES

a. Composition of Detachment

An engineer assault detachment (*Pioniersturmzug*), whose principal task is the assaulting of pillboxes, may be composed of any or all of the following:

(1) From two to six men with pole charges or tube charges. (These tubes are said to be about 2 yards long.)

(2) From one to three flame-thrower teams of two men each. There is also said to be a third man, who accompanies them and serves as an alternate, if needed.

(3) From one to four men with hollow charges and explosives.

(4) Light machine-gun covering detachments.

The engineer assault detachment in action is normally divided into two sections (*Gruppen*).

b. Assault Tactics

The assault is normally preceded by a concentration of artillery fire. One purpose of this fire is to make craters in which the advancing engineers can take cover. When the assault detachment reaches the wire surrounding the enemy pillbox, Very signals are fired, calling for all available artillery fire to be placed on the pillbox and its immediate surroundings.

It is reported that, at this point, a smoke screen is laid by two men of the detachment, using smoke grenades (similar to stick grenades), smoke candles, or smoke canisters. Also, there are reports that smoke screens are put down as soon as the artillery is compelled to cease fire because of the proximity of the assault troops.

Men armed with wire cutters cut a lane through the wire obstacle, hidden by the smoke screen. As an alternative measure, men with tube charges go forward and push their charges under the wire. These tube charges, which are similar to Bangalore torpedoes, contain 18 to 20 pounds of explosive. When the charges are in place, a designated engineer calls out "Ready for ignition!" (*Fertig zum zünden*), whereupon the commander of the obstacle-blasting party replies "All together, ignite!" (*All zusammen zünden*). The

engineer then ignites the fuze and calls out "Burning!" (*Brennt*) to warn personnel nearby to get under cover. The explosion of the tube charge opens a lane in the wire. The engineers nearest the lane then shout "Gap here!" (*Hier Gasse*).

Besides blinding the defenders of a pillbox by means of smoke, the Germans also fire antitank guns directly at the embrasures of the pillbox.

(It seems highly probable that the shouting drill has been developed to enable the engineers to keep in touch with each other when visibility is poor or zero, and because of the difficulty of commanding the whole operation from a central command post.)

The flame-throwing detachment, having advanced with the remainder of the assault party from crater to crater, now moves through the gap in the wire and attempts to reach a point 5 or 6 yards from the pillbox.

Now that artillery fire has lifted from the area around the pillbox, the task of keeping the defenders' heads down is taken over by covering machine guns. The flame-thrower operators direct jets of flame at the various embrasures in the pillbox, in accordance with orders given before the operation began. The blinding effect of the jets enables the men with the pole charges to advance. When the flame-throwing detachment is about to run out of fuel, a designated engineer shouts "Last jet!" (*Letzter Strahl*). Each man who is carrying a pole charge advances to an embrasure and detonates his charge inside it. Prisoners state that

these charges are effective even against closed embrasures.

If the pillbox continues to hold out, either of two alternatives is possible:

(1) The engineers may throw smoke candles into the pillbox to drive out the occupants.

(2) The engineers may blow in the roof, using a charge weighing about 110 pounds. This charge, which may be carried in two pieces, is fitted with handles for easy transport. It is circular, and has a concave undersurface and convex upper surface. It is said to be about 10 inches thick in the center, but thinner toward the edge. Since the charge is constructed on the hollow-charge principle, it can penetrate normal concrete or armor. It is detonated by a friction igniter.

As soon as an important pillbox has been taken, a swastika flag is draped over it as warning to friendly dive bombers. A pillbox in a fortress, for example, is considered especially "important."

3. ATTACKS ON TRENCHES

German engineers who have taken part in exercises involving attacks on trenches state that they have used ordinary assault methods, preceded by a liberal use of hand grenades.

For this purpose, certain men are trained as short-distance throwers (*Nahwerfer*) or as long-distance throwers (*Weitwerfer*). The flame-throwing detachments move directly behind the hand-grenade throw-

ers, and the whole party is covered by machine-gun fire from the flanks.

[NOTE.—The Germans, having devised these tactics, are thoroughly familiar with the methods of defense against them, one of the most important of which is the use of pressure and trip antipersonnel devices in the vicinity of the dead angles of bunkers. Extremely meticulous intelligence is an essential for this type of assault.]

Section V. MISCELLANEOUS

1. INSTRUCTIONS IN CASE OF CAPTURE

Like the troops of other nations, German soldiers are instructed to reveal nothing more than "name, rank, and serial number" in case of capture, and are reminded that in accordance with international law, any other information may (and must) be refused. In addition, the German Army warns its soldiers to obey certain special instructions:

a. If you believe you are in danger of being captured, destroy all papers that you have on your person. Above all, tear out page 4 of your *Soldbuch* (pay book), which mentions your unit.

b. If you are captured, be strictly military and, at the same time, polite. Don't be influenced by friendliness on the part of the enemy, or by threats.

c. Never speak the enemy's language.

d. Always remember that the most trivial things, to which you attach no importance, can often give valuable information to the enemy.

e. No interest in technical questions is to be shown, not even when the questioner tries to provoke an argument by belittling German weapons.

f. Don't try to deceive by false answers.

g. Don't let yourself be fooled by an assumed knowledge, on the questioner's part, of the subject under discussion.

h. Don't discuss military matters or details of operations with your fellow prisoners.

In North Africa the German Army regarded the following information as especially valuable to the United Nations, and warned its troops that they must take every precaution to keep it secret:

a. The unit to which you belong, and its location.

b. The effectives of your unit, and its losses.

c. The other units which belong to your regiment or your division. The other units which were engaged at the same time as yours, and their effectives.

d. When, and by what means, you arrived in the theater of operations, what you saw on your way, and when you had your last leave.

e. What weapons the German Army has, whether you have seen any new ones, and if and when new or repaired tanks may be expected to arrive.

f. The morale of German troops; details regarding supplies and matériel.

g. The morale at home; the effect of United Nations bombing.

German soldiers in other theaters of operation receive similar warnings. The Germans caution their troops not to believe that better treatment will be given them if they consent to talk. It is stressed that even after a soldier has been interrogated, he must be careful when talking to other comrades in the camp, because of the possibility that a listening apparatus may have been installed. Troops are warned, too, that strangers in German uniforms may try to win their confidence, and that these strangers will certainly be spies. Speaking over the radio, making phonograph recordings, and writing of war experiences are strictly forbidden.

Of special significance is the German Army's threat of future punishment if these orders are not fully obeyed:

Every prisoner remains a German soldier. You must realize that after your return you will, if necessary, be called upon to answer for your behavior during your time of captivity.

2. PRISONERS' RUSE

According to a German prisoner, the following trick may be attempted by German soldiers who are about to be taken prisoner. Sometimes, just before a man is captured, he empties his aluminum canteen, slits it from base to neck, places his automatic pistol in the hollow space, and presses the sides of the canteen together again. He also presses the sides against the weapon to keep it from rattling. He then draws the canvas cover over the canteen. The weight of the pistol is approximately equal to the weight of a canteen filled with water.

If a man who follows this procedure is not detected, he will be able to carry his pistol into an internment camp, where he can use the weapon against his captors, either while he is attempting to escape or in some other situation.

3. USE OF ROVING GUNS

The following extract from a German Army document discusses the tactical use of roving guns:

The two principal reasons for using a roving gun are:

a. To avoid betraying the location of the actual battery positions if the target can be dealt with by a few guns.

b. To camouflage the fire of our own activity by offering considerable protection against enemy flash-spotting and sound ranging

In the first case, each battery will site a gun 200 to 300 yards to the flank of the battery position. From a gunnery point of view, it is technically desirable to site the roving gun well on the flank of the No. 1 gun. It is not an advantage to displace it further by putting it forward or to the rear of the actual gun position, because fire control thus becomes more difficult and enemy observers can more easily identify the explosions of individual guns. If the gun is merely put 200 to 300 yards forward or to the rear, it may deceive as to the location of the other guns of the battery, but it also will bring the battery position within the 100-percent zone of fire¹ directed against the roving gun. All ranging and harassing fire can be carried out by these guns. The roving guns of a battalion or even larger unit may be concentrated against important targets.

In the second case, the best camouflage will be obtained if provision is made that all firing be done as far as possible by concentrated fire and by as many batteries as possible. Batteries will lay down the concentration only after fire from the roving guns has been seen or heard. The roving guns will fire until the batteries have concluded their concentrated fire.

¹ That is, within the dispersion pattern.

PART TWO: ITALY

Section I. B2, S. C. G. AT MINE AND B4 ANTIPERSONNEL MINE

1. B2, S. C. G. ANTITANK MINE (see fig. 17)

a. Characteristics

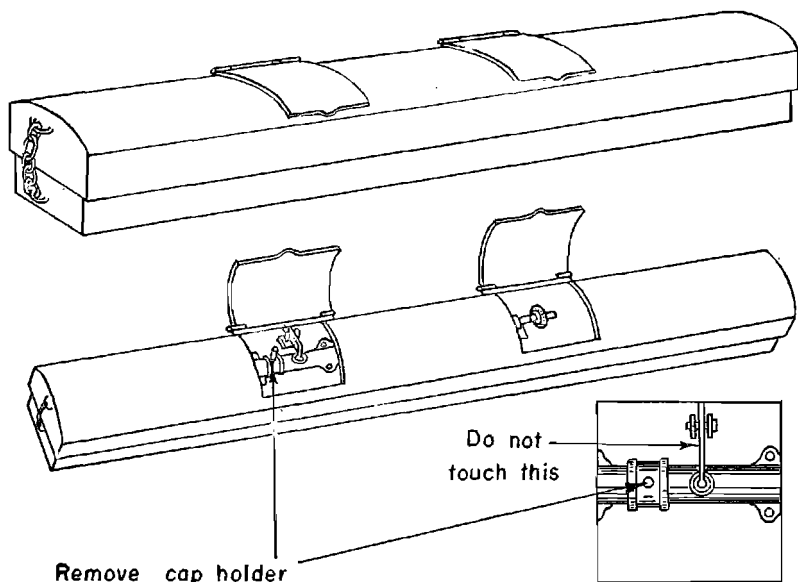
The B2, S. C. G., which is the principal Italian anti-tank mine, is a rectangular metal box, 3½ feet by 5 inches by 5 inches, weighing 33 pounds and containing about 7 pounds of explosive. The box has an over-all cover attached by chains at each end. There are two inspection lids (with hinged flaps) in the cover. The charge is placed in both ends of the box, and the firing mechanism is in the middle. The striker is held clear of the cap by a wire. When the lid is pressed down, this wire is sheared by a knife edge on the underside of the lid.

b. To Neutralize

(1) If Lifting by Hand Is Ordered

- (a) Search for booby traps and neutralize them.
- (b) Open both inspection lids gently.

(c) Remove the cap holder carefully, but do not touch the lever.¹



Remove cap holder

Figure 17.—B2, S. C. G. (Italian antitank) Mine.

(2) *If Pulling Clear Without Searching for Booby Traps Is Ordered*

- (a) Pull clear with 50 yards of cable.
- (b) If the mine is still intact, carry out (b) and
- (c), as above.

¹There is a newer model of the B2, which has a safety-pin hole between the cap holder and the lever. When neutralizing this model, insert the safety pin or nail or stout wire through the hole before removing the cap holder.

2. B4 ANTIPERSONNEL MINE (see fig. 18)

a. Characteristics

The B4, which is the principal Italian antipersonnel mine, is a shrapnel mine which scatters scrap metal when detonated. Since the mine does not have the "jack-in-the-box" effect of the British and German types, it is generally fixed to a tree or a post. However, there have been instances in which B4's have been buried in the ground. The B4 is fired by trip wires or tension release.

b. To Neutralize

- (1) Insert a nail or a stout wire into the safety-pin hole in the striker.
- (2) Pull out the cap holder.
- (3) Cut the tension wire and trip wires after checking the other ends for booby traps.

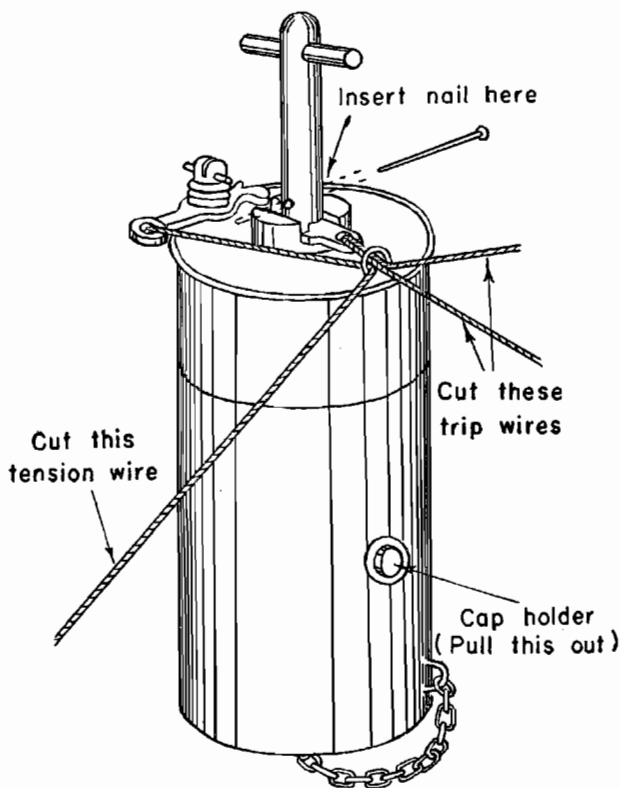


Figure 18.—B4 (Italian antipersonnel) Mine.

Section II. NOTES ON ATTACK

1. INTRODUCTION

The following notes on attack were written by an Italian commander to correct what he termed some very bad errors in elementary tactics. The notes, addressed to "all officers," discuss a familiar Italian weakness—failure to organize a defensive position after a successful advance.

2. THE NOTES

Attacking units which have little or no opposition frequently stop after reaching their objectives, deciding that their part of the action has been completed. Not only does this affect discipline, but it neglects the most elementary defense and safety precautions, as the soldiers put themselves in full view of the enemy, and break ranks to gaze around and wander about the area. The results that could derive from such inconceivable conduct are evident and understandable. Such conduct occurs at the most critical and difficult phase of the action—when enemy reaction is to be expected more or less immediately, either in the nature of artillery fire or counterattack.

The regulations for such cases are clear and explicit, and therefore I do not deem it necessary to quote their contents since they constitute the basis of technical professional training.

However, I wish to make quite clear certain tactical necessities which should be kept in mind and practiced.

a. During Attack

- (1) Cover your exposed flank with the machine-gun platoon.
- (2) Keep flanking units within sight, and coordinate your fire with theirs.
- (3) See that units don't get mixed up.
- (4) Overcome the tendency to close up.

b. When Objective Has Been Gained

- (1) Proceed immediately and speedily beyond the objective, and organize a defensive position (use your engineers).
- (2) Maintain the greatest cohesion within units, keeping under cover and out of sight of the enemy.
- (3) Get your weapons into firing position.
- (4) Re-form the reserves.
- (5) Watch the flanks.

c. During Rest Periods

- (1) Keep the unit under control.
- (2) Dispose units in the positions best suited for observation and fire.

The above notes reveal clearly the importance of the infantry squad in fighting, and therefore their application is the specific job of noncommissioned officers. Company and platoon commanders will insist on the proper execution of these measures.

PART THREE: JAPAN¹

Section I. AMERICAN WOUNDED TELL ABOUT JAPANESE ON ATTU

1. INTRODUCTION

In recent individual interviews, U. S. soldiers wounded on Attu described the lessons they learned in combat with the Japanese. The statements made by these wounded men are reproduced here with only a few changes to eliminate repetition. In compliance with a policy of the Military Intelligence Service, the names of the men interviewed are omitted.

2. THE INTERVIEWS

Private (rifleman)—The Japanese are sneaky and treacherous. They shot and injured one of our men, who then started making his way toward our lines. The Japanese withheld their fire until our man was within 100 yards of our troops; then the Japs shot him enough to break him down so he couldn't go any further. They figured that we would send several men out after him, and that they could kill all of them. After waiting some time for us to try a rescue, the Japs killed the wounded man.

¹ In *Intelligence Bulletin* No. 11, page 75, the title of paragraph 4 should read "Defense Against Aircraft."

Maybe other soldiers going into combat zones could profit by the lessons I learned the hard way. Never stand up while digging a foxhole. Lie on one side and dig awhile, then on the other. If you are lying down when a mortar shell strikes near you, it won't hurt so much—and you won't make a good target for a Jap rifleman or machine gunner. I was one of those who stood up to dig foxholes—and now I'm in the hospital suffering from a concussion. Had I listened to what was taught me in training, I might still be out there helping to get rid of those Japs. I was a good marksman but not a good soldier—because a good soldier takes every advantage offered. I've learned my lesson now.

Sergeant (rifle platoon)—Apparently the Japs are easily confused. Even when we pretended to throw a hand grenade, they would scatter in all directions—thus becoming easy targets for our riflemen. They were not equal to our soldiers in hand-to-hand combat.

One thing that impressed me was the accuracy the Japanese attained with their grenade discharger . . . They could place a shell on a machine gun in two rounds—our machine gunners will live longer if they change positions frequently.

Private First Class (machine gunner)—The Japs used the fog in a smart manner. When the fog lifted in the morning, they fired one long and one short mortar burst on our platoon area to get the range. We did not move our positions, so in the afternoon the Japs opened right in the middle of us with their mortars. The shells buried themselves in the soft ground before exploding, and were not as harmful as they would have been otherwise.

My most lasting impression was of the calm and efficient manner in which our medical men, unarmed, went into the battle zones to bring out the wounded.

1st Sergeant—The Japs like to fight in small groups, and will try to halt a group many times their strength. They move fast, so you have to be ready at all times to engage them.

I don't believe the Japs are good marksmen. Many times when they picked us for targets we got out of their field of fire by hitting the ground and rolling 3 or 4 yards to the right or left (they would continue for a few rounds, firing in a path).

Our equipment and weapons are better than those of the Japs, and careful planning and use of good, clear minds will always beat them. The Japs' mortar is their best weapon, although the firing methods used with it were not good.

I found that many of our men fired when they were not sure of their target. This sometimes resulted in the drawing of mortar and machine-gun fire and in loss of position.

Private First Class (rifleman)—My impression is that the Japs are very poor shots with a rifle or machine gun. Watch out for their grenade discharger, though. They really use it a lot against personnel. If our men keep plenty of interval, there won't be much danger. Failure in this respect was one of our faults. Our unit didn't have enough room for the number of men we had on line when we tried to assault a hill, and we lost too many men to finish our mission.

Private First Class (rifleman)—The Japs work in pairs, and change positions quite often. They'd even use our artillery shell holes to machine-gun us.

To me, the Japs are fast, tricky, and treacherous. They used camouflage expertly, and were darn hard to see. Their uniforms looked like burlap and were a yellowish green.

Sergeant (squad leader)—Our advance was uninterrupted except for some dummy installations, which were nothing more than the top layer of earth turned over to confuse our aerial photos . . .

The night we arrived at Temnac Bay we soon found that the Japs were not very well disciplined about lights or smoking at night. With the help they gave us from their lights, we didn't have to wait until daylight to start our mission. The few Japs who weren't killed that night in tents by hand grenades were finished off the next morning.

Private (rifleman)—A marine once said that you could detect Japs at close range by a peculiar odor [see *Intelligence Bulletin* No. 5, page 37]. This is hard to explain, but we also detected the odor on Attu when the wind blew from their direction.

The Jap is hard to see, but once you get him in the open he's licked. He surely doesn't like hand-to-hand combat.

Special efforts are made by the Japs to pick off our men who wear insignia, or those who give hand signals.

The Japanese guns and helmets are not as good as ours.

Private (rifleman)—The greatest mistake we made was taking to the valley. The enemy was fortified on the sides of the hills where they could fire right down on us. The important thing is to stay separated, and to lie as low as possible. Make your rushes fast and short, and never lie where you fall. Always roll over two or more times, and always have the next landing place picked out before you get up.

Private First Class (observer)—The Japs didn't seem to aim their machine guns; they just moved them slowly from one side of our lines to the other—sometimes they fired into the fog when they couldn't even see our positions.

In my opinion, the M1 is the best rifle the individual soldier can have; also, our hand grenades are much more effective than the Japs'.

Corporal (rifleman)—In my brief encounter with the Japanese, I found that their rifle squads appeared to be very careless in maneuvering (they made a lot of noise, and had a tendency to bunch together). Their riflemen were poor shots and showed poor judgment.

Private (rifleman)—A machine gun got me. The Jap snipers are not so hot.

Our medics were swell. They did a job that is hard to describe, and they worked as long as 27 hours at a stretch.

Private First Class (machine gunner)—I was under fire four days. First of all, I had to dig a slit trench to keep the enemy from seeing and shooting at me. Cover was not hard to find.

My impression is that the Japanese soldier doesn't have the guts the American men have. He gives up very easily in hand-to-hand fighting.

One thing to be careful of is hidden explosives.

Private (rifleman)—Most of our casualties resulted from failure to take cover while advancing. The Japs are good snipers, and are always around where you least expect them. Watch out for dummies in trenches. They fooled us a couple of times.

Instrument Corporal—The Japs did an excellent job of fortifying and camouflaging their trenches, foxholes, and other emplacements, and their sniping was quite accurate.

Private First Class (BAR man)—I learned that the Japanese like to do all their close fighting at night, and keep out of sight during the day. In my opinion, they are not very brave fighters.

Private First Class (messenger)—There is one thing I want to stress. Every soldier should take good care of his entrenching tool, because it saved many men's lives on Attu.

Colonel (Medical Corps)—The condition of the wounds upon arrival at this station was indicative of very excellent first-aid care. There were very few infections, even though many wounds were still open. The use of sulfanilamide or sulfathiazole powders or crystals on open wounds was evidently largely responsible for the lack of infection. We feel that no prolonged attempt should be made to remove bullets, shell fragments, or other foreign bodies in the immediate combat zone. Sterile dressing should be applied and the patient evacuated to a more stable area.

Section II. NOTES ON HOW JAPANESE ATTACK PILLBOXES

1. INTRODUCTION

The information in this section is based on a translation of six handwritten loose sheets of notes, which probably belonged to a Japanese officer who was killed or wounded in the Buna area of New Guinea. The notes apparently do not give the complete Japanese doctrine on attacking pillboxes, although some phases are described in detail.

The use of poison gas as one means of reducing pillboxes is casually mentioned in one place in the notes. This indicates that at least some Japanese troops may be trained in certain uses of poison gas; however, there are no confirmed reports to date that they have used it against American, British, or Australian troops. Numerous reports from China indicate that the enemy has used poison gas on some occasions in the Chinese theater of operations. It is probable that the notes presented below were based, at least in part, on Japanese experience in the use of gas in China.

To bear the major burden of attack against pillboxes, the Japanese—according to the notes—organize

a "Pillbox-attack *Butai*," with regular front-line units usually assisting the *Butai*. [The word *butai* is loosely used to denote any group of soldiers.]

2. ORGANIZATION, AND ATTACK DUTIES

The organization and duties of various units or detachments which constitute the Pillbox-attack *Butai* are listed below. (It is essential that all concerned cooperate very closely).

a. Assault *Han*¹—Its principal object is temporary neutralization of the pillbox. It will be composed of a machine-gun or an engineer detachment, and, if needed, a reserve *han*. In order to take advantage of the terrain and to insure speedy movement, this *han* should have a bare minimum of personnel (less than six men, if possible).

b. Assisting Fire-power Detachment—This is composed principally of a light machine-gun squad and a heavy machine-gun squad.

c. Mopping-up *Han*—Its objective is to mop up the enemy completely.

d. Obstacle-demolition *Han*—This can be a machine-gun detachment, or—depending on the situation—an engineer detachment, or both. (This *han* is necessary if the Mopping-up *Han* needs demolition work done before it can complete its mission.

e. River-crossing Construction *Han*—This will be a machine-gun or engineer detachment.

3. WEAPONS AND EQUIPMENT

Make the equipment light—carry only a minimum of weapons and instruments. Machine-gun and engineer units engaged in construction will not carry rifles.

¹ This unit normally is roughly equivalent to our squad; however, in practice its strength has a wide variation. It usually corresponds to what we would term a "detachment."

Carry as many hand grenades, gas grenades, or other close-combat weapons as possible.

Be equipped for silent movements.

Wear bullet-proof jackets if necessary.

If you attack at night, select passwords and erect appropriate markers. Carry flashlights, ropes, and the signaling equipment necessary for liaison with our own troops.

The weapons and equipment to be carried by each individual unit or detachment of the Pillbox-assault *Butai* are listed below.

a. Assault Han:

- (1) Rifle, bayonet, and shovel;
- (2) Hand grenades, gas hand grenades, and smoke candles;
- (3) Flame thrower or gas spray; kerosene or fuel oil;
- (4) Instrument for blocking loopholes (a loophole-shaped piece of metal attached to a rod which is about 3 yards long), or a loophole-blocking sandbag;
- (5) Signaling equipment;
- (6) Equipment for demolishing wire entanglements;
- (7) Materials to aid in the crossing of rivers; and
- (8) Bullet-proof jackets or shields.

b. Assisting Fire-power Detachment:

Smoke bombs or gas bombs, which may be fired from accompanying guns.

c. Mopping-up Han

In addition to carrying the same type of weapons as the Assault *Han*, the Mopping-up *Han* should have, if deemed necessary, a bangalore torpedo, a hand-sprinkling poison gas can, and a sandbag.

[No mention is made here of specific items of equipment for the Obstacle-demolition *Han* or for the River-crossing Construction *Han*.]

4. METHODS OF ATTACK

a. Assisting Fire-power Detachment

From the line of general approach, advance as close as possible to the front of the pillbox—to a point from which it is most convenient to fire into the loophole. Get close enough to see the opening and closing of the loophole with the naked eye, and wait for a suitable time to start firing. (The best time for approaching is at night.)

The required standard strength for observing and neutralizing the loophole is as follows:

When armed with rifles----- 1 squad.

When armed with LMG----- 1 LMG (1 in reserve if necessary).

When armed with Hv MG----- 1 Hv MG.

When armed with rapid-firing 1 gun.
gun or Mt gun.

b. Assault *Han*

This unit must cooperate closely with the Assisting Fire-power Detachment, and, with the aid of its fire, close in on the pillbox during a lull in hostile fire.

One method of approach is to divide the *han* into small groups and close in on the pillbox from several directions.

In any approach, consider the effects of enemy flanking fire, and utilize the terrain as skillfully as possible. Careful use of creeping tactics, when enemy fire was heavy, has recently proved to be better than individual rushing, or the direct-advance method.

We usually suffer considerably more casualties while at a halt than we do while advancing. However, we must not return fire received when we first halt, unless the situation is favorable. Usually we should skillfully change our positions immediately after halting, getting the best cover available. Then it is permissible to commence firing.

c. Mopping-up *Han*

Wait for your opportunity near the Assisting Fire-power Detachment, and advance immediately after the Assault *Han*'s charge and mop up the enemy. Cooperate closely with the Assault *Han* in order to make good use of its gains.

d. Machine-Gun or Engineer Detachment

This detachment, in charging and mopping up, will occupy those places which are concealed from enemy flanking fire, such as loophole dead spaces. Sometimes suitable places can be discovered in communication trenches or other excavations at the rear entrance to the pillbox. It is comparatively safe to lie on top of a flat pillbox, but not on one which has a sloping roof.

Loopholes usually are closed by use of loophole-closing equipment or sandbags. When such items are not carried, use a shovel—climb on top of the pillbox and place the shovel over the loophole.

Hand grenades or gas hand grenades are very useful to attack the defenders near the pillbox openings. Recent experience shows that the simplest method of attack is to throw hand grenades into the ventilation hole—however, first determine whether the ventilation hole is covered by any kind of netting.

If tactically desirable, you can prevent the closing of the loophole by throwing hand grenades at the loophole door.

In attempting to penetrate the pillbox by way of the rear door, you must take the initiative and not give the enemy time to fire. Also, watch out for pistol fire. If you fail to penetrate the rear door—after having used hand grenades and other equipment—block it with sandbags to prevent escape of the enemy.

Flame throwers, or rag bundles soaked with gasoline, kerosene, and so forth, are quite effective weapons, once you get close enough to use them.

[At this point the Japanese notes mention "methods of releasing persistent or nonpersistent gas before attacking guards." However, no details are given.]

When using explosives, not less than 20,000 grams of powder are necessary to make a gap in pillboxes, the sides of which are a yard or more thick—we have encountered countless numbers of such pillboxes in this campaign [probably in China]. Therefore, the explosive method is used mostly for bursting doors or widening loopholes to aid in the mopping-up activities.

e. Night Attacks

If the attack is made at night, each unit or detachment of the Pillbox-attack *Butai* should penetrate the pillbox area as silently as possible. The commanding officer will indicate a position from which a surprise attack will be made.

The terrain, enemy situation, and particularly the degree of darkness will determine the exact method of attack.

Close liaison must be maintained at all times, and care must be taken to prevent friendly troops from firing at each other by mistake.

f. Assistance by Other Troops

In addition to the Pillbox-attack *Butai*, the front-line troop units, during their advance, will also carry out attacks on pillboxes.

Their object is not necessarily the direct capture of pillboxes. These units will infiltrate the pillbox area in order to capture the entire depth of the enemy's front-line positions.

When advancing at full length, it is necessary to use leap-frog methods. For example, the No. 2 line unit will leap-frog the No. 1 unit.

Throughout the day, these units must maintain close liaison with the fire-power unit in the neutralization of enemy fire. Also, the Mopping-up unit must stay in the immediate rear of the No. 1 unit at all times, in order to protect the advancing front line from harassing rear attacks.

5. DESTRUCTION BY BOMBARDMENT

Even if the decision is to destroy pillboxes by bombardment, it is still necessary to organize a Pillbox-occupation Detachment. However, in actual combat, the bombardment method is seldom used.

Experience has shown that in order to destroy a pillbox 90 centimeters (approximately 3 ft.) or more thick, it is necessary to use 150-mm artillery.

Section III. DEFENSE TECHNIQUES

1. POSITIONS

If possible, the Japanese choose defensive positions which are flanked on one or both sides by natural obstacles, such as the sea, rivers, creeks, steep hills, and mountains. In Burma the positions invariably included tank obstacles, which usually were natural barriers. If natural obstacles did not exist, the Japanese generally utilized the terrain most easily converted into obstacles.

In hilly country, the Japanese—like the Germans—prepare their main defensive positions on the reverse slopes. They tunnel into the hillsides, and build dugouts which afford adequate protection against field guns, except for direct hits. Well-constructed earthworks protect the Japanese from normal infantry supporting weapons.

On a steep hill in New Guinea, the Japanese arranged defensive positions which consisted largely of one-man pits and platforms, cut into the sides of the hill. The pits usually were about 4 feet deep, about 18 inches in diameter, and situated an average of approximately 20 feet apart. The platforms were

approximately 14 feet by 6 feet, and appeared to be sited to conform with the general defense layout. Ammunition strips and cartridge cases were found on these platforms, which also were used for sleeping purposes.

All the pits were linked together with trails, which were not visible from the air because the defense area was under heavily branched trees. A fence, 4 feet high and made of small logs, extended across the area. An alarm wire, about ankle high, was strung beyond the fence. Tin cans were tied to the wire at about 5-foot intervals.

2. WEAPONS

In Burma the Japanese followed the normal practice of using machine guns as the principal weapon of defense. Medium machine guns were sited well forward. They generally were sub-allotted to platoon areas, and were often found on high terrain or dug into the sides of steep terrain. These weapons often were sited singly, and always were provided with alternate positions.

It is important to remember that Japanese medium machine guns, on the defensive, sometimes fire along a line about 10 yards from the forward edge of the Japanese main line of resistance. And assaulting soldiers—if unprotected by smoke or darkness—may suffer heavy casualties immediately in front of the enemy position, particularly if they become bunched in converging on the objective.

Next to machine guns, mortars and grenade dischargers are of great importance to the Japanese on defense. Mortars 3 inches or more in caliber may be allotted to rifle companies on a scale of one per company, but the 50-mm grenade discharger is more frequently used by the forward units—each platoon being equipped with three or four of these dischargers.

3. TACTICS IN COMBAT

The Japanese, cleverly concealed, hold their fire during an attack until the opposing forces are close—too close for the latter to receive support from artillery, mortars, and medium machine guns. Then the Japs cut loose with a heavy volume of machine-gun fire. They also throw showers of grenades, particularly if the attackers are advancing uphill.

In Burma the Japanese launched immediate counterattacks against soldiers who had captured a part of an area. These attacks were on a small scale, a dozen men led by an officer. They were preceded by a shower of grenade-discharger shells. A wild cry, to which the shout “Charge!”, in English, was sometimes added, gave warning of the counterattack.

On numerous occasions during the fighting on Attu, the Japanese would withdraw—or be forced—from ridge lines, drop down the reverse slope to positions just below the military crest, and wait for U. S. soldiers to come over the top. Then the enemy opened up with machine guns, rifles, and grenade dischargers. Therefore, to capture a ridge, it was necessary for our

soldiers to take the reverse slope to a point just beyond the military crest as well as the ridge itself. Many of the Japanese counterattacks were launched on reverse slopes so steep that the enemy had to crawl on all fours to advance. Moreover, in doing this, the Japs were excellent targets for our forces armed with M1 rifles and hand grenades.

Section IV. NOTES ON JAPANESE SECURITY MEASURES¹

1. INTRODUCTION

Some of the security measures observed by the Japanese are given below in the form of extracts taken from Japanese documents. Although the facts contained in these extracts have not been changed, they have been reorganized and edited for the sake of clarity.

These extracts are presented with the view that such information will stimulate the security efforts made by our own troops, in addition to familiarizing them with Japanese security methods. It must be kept in mind throughout that these extracts are statements of Japanese doctrine and must not be confused with our own.

2. GENERAL SUPERVISION

The Japanese state that the observance of proper security measures and the maintenance of good military discipline are very closely related. Almost invariably, troops who halfheartedly observe security regulations are poorly disciplined troops.

¹ See FM 30-5 for a discussion of U. S. security methods.

The following quotation gives an indication of Japanese thought about security duties:

“In case secret information leaks out, soldiers should be trained to take the same action against their soldier and civilian friends that they would take against soldiers and civilians who are strangers.”

Although the Japanese have security regulations to cover all units and situations, the documents quoted in this section deal mainly with the battalion. Each battalion has a security committee which consists of a president (senior Hq company officer), the battalion adjutant, and one officer from each unit.

The duties of the committee, as outlined by the Japanese, are as follows:

The president controls and supervises the security training, and decides what action, if any, will be taken against offenders. He is assisted by the committee in gathering materials for security instruction and in fostering a state of security-mindedness among all personnel. The president, the committee, and the commanding officer of each unit utilizes the time of internal inspections to conduct special security investigations. The committee holds meetings from time to time to study security matters and to determine the most efficient methods of putting security measures into operation.

All unit commanders and committee members, noncoms and above, are particularly expected to give detailed instructions concerning means of carrying out security measures.

The battalion security committee will see that timely security bulletins are published from time to time to prevent troops falling into a condition we might call security “stagnancy.”

3. PRECAUTIONS

a. In Handling Classified Matter

(1) Distribute only a list of documents to units within the battalion—the documents not directly necessary for an individual unit will be held by battalion headquarters and examined only when necessary.

(2) Collect all documents of no further value, and have them burned under supervision of the depot unit's noncom orderly of the week (day).

(3) Tightly seal secret military documents for dispatching, and get a receipt for same to insure against loss.

(4) Do not mix things classified as secret with material of a lower classification; do not put them in map cases or similar containers which could be dropped and lost. Even if things are not classified secret, do not leave them lying around.

(5) Treat as extremely secret all documents concerning instructional organizations, plans for maneuvers, and lists of personnel.

(6) Make only the number of copies absolutely necessary [in preparing secret documents].

(7) Make certain that the person so designated disposes of classified documents after their use.

(8) Prohibit persons outside the unit from seeing, or even being aware of, the presence of classified documents.

(9) Be cautious in selecting the custodian of secret documents.

(10) Be sure that the security box for secret documents is strong and has a lock. It must be kept under supervision at all times.

(11) Guard the receptacle in which secret things are carried and the method of transportation, and see that the receptacle is not opened, dropped, or lost.

b. Regarding Military Personnel

(1) Don't talk carelessly about military matters outside the barracks, even when among soldiers.

(2) Forbid subordinates to take notes of secret military matters during instruction periods.

(3) Don't mention secret military matters in talking over the telephone; communicate in writing, or make contact personally. If the person at the other end of the line mentions secret matters, caution him immediately.

(4) Make it impossible for anyone to determine, by marks of destination, the proper name of a unit, the number of personnel, and so forth.

(5) Appoint a person in charge of security in every room [barracks].

(6) Enforce the display of security slogans, epigrams, and the like in soldiers' rooms, canteens, passages, public places, and so forth.

(7) Pay particular attention to security in the official bachelor quarters outside the barracks.

(8) Forbid typists in each headquarters department to read or compare each other's notes.

(9) Strictly control rumors and baseless lies. Dispel idle talk and uneasy curiosity by promptly informing every individual about matters they are entitled to know.

c. Regarding Inspections and Censorship

(1) Watch for letters, parcels, and articles brought into barracks, and enforce their strictest inspection.

(2) Be strictly secret in censoring personal communications.

(3) Assign a censor for personal communications at headquarters of battalions and companies. Unless such communications bear the franking seal of said officers, the former will not be accepted at the post office.

(4) See that personal correspondence of persons living in barracks is written on post cards. Sealed letters may be used only with the permission of unit commanders.

(5) Forbid persons living in barracks to post mail outside the barracks (this also applies during field maneuvers, and so forth).

(6) Never use the proper name of your unit except as author-

ized by regulations. The common designation will be used on all ordinary documents.

d. In Dealing with Civilians

(1) Increase security vigilance when you come in contact with persons outside your unit (when bivouacking in the country, and so forth).

(2) Be sure that outsiders do not observe our organization, equipment, or the techniques of combat during drills, maneuvers, marching, and inspection. Post guards to prevent the approach of outsiders.

(3) Keep employed laborers or coolies from observing our military strength or tactics.

(4) Strictly inspect articles brought in or taken away by visitors—except in the case of visiting commissioned officers.

(5) Warn clerks and other civilians of the importance of vigilant security precautions. In particular, supervise and guide printing personnel, typists, and telephone exchange operators.

(6) See that printers retain no proofs.

(7) Pass the prints of commemorative photographs through the hands of the responsible person, and see that the negatives are collected.

(8) Take precautions with civilians connected with canteens, cooking, construction, newspaper delivery, and photography.

(9) Greatly restrict the movement of civilians through barracks, and the coming and going of groups of persons.

(10) Investigate the personal history of merchants having dealings at barracks or camps, and make frequent secret investigations into their means of livelihood. In liaison with the military and provincial police, increase these considerations tenfold where Koreans are concerned. Carefully supervise the coming and going of merchants.

(11) Have business conversations conducted only by those in charge of such matters. Be cautious with documents relating to business transactions—because information about organization,

equipment, and number of personnel can be deduced from the amount and number of transactions.

(12) Determine the best time and place to make purchases, from the standpoint of security.

(13) Supervise newspapermen as follows: Have a definite entrance and exit; see that they do not talk with persons other than those in charge; and see that no photographs are taken without permission.

e. Regarding Foreigners

(1) See that military personnel have none except official contacts with foreigners. Take particular precautions with Englishmen, Americans, Russians, and "Anti-Hitlerites"—of whom there are a large number despite the fact that they are German—in order to prevent discovery of our intentions.

(2) Report with all speed any foreigners or suspicious persons discovered wandering around in the vicinity of barracks or bivouac areas.

(3) Exercise thorough precautions and supervision in respect to Christianity. Control the relationships of Korean Christians with Englishmen and Americans.

4. EXAMPLES OF VIOLATIONS

In order to illustrate some of the common violations of security regulations, the Japanese have published a long list of military personnel who have broken security rules. The list gives the full name and the unit of the offenders in each instance, the nature of the violation, the scope of leakage, and the measures taken by security authorities.

A few examples of the violations are given below to illustrate some of the ways a soldier can imperil his

country and endanger the lives of his comrades by being careless, indifferent, or criminal with regard to security.

a. Sergeant—wrote in a letter “. . . at this time, to tell the truth, we are secretly preparing for war.”

b. Sergeant—wrote a military transportation schedule on the wall of a railroad station, where he was assigned to duty in a line-of-communication unit, and frequently left his post unguarded.

c. Private—“It seems that pretty soon I shall be setting out for X. Our regiment is making steady preparations We have been issued battle kits, and so forth.”

d. Officer—wore a combat uniform and carried a military sword (wrapped in white cloth), thus disclosing at a glance that he was leaving for the front. While attending a banquet, he said: This is our last drink with you.”

e. Officer—“Now is the day for field units and replacement units to prepare for action. It is difficult to measure in the hearts of the people whether it shall be peace or war. This depends on the international situation. I feel sad when I think of our lack of materials for weapons I shall go to Kantosho, Manchukuo”

g. Military laborer—“The European crisis has been brought closer. Feeling on the Soviet-Manchurian frontier [some time before Dec. 7, 1941] has also suddenly become worse, and the reservists are being posted one by one to military stations”

PART FOUR: UNITED NATIONS

Section I. HOW BRITISH DEAL WITH ROAD CRATERS, OBSTACLES

1. INTRODUCTION

In the British Army, troops of all arms are instructed how to deal with road craters and road obstacles when prompt action is required in an emergency. The following is an extract from a British Army document on this subject:

2. CRATERS

First, look for antitank mines, antipersonnel mines, and booby traps, within or around the craters. Then look for a detour and use it if possible, cutting down fences and ramping all low banks. If a suitable detour exists, it will nearly always be more advisable to use it than to repair the crater.

If it is necessary to fill in the craters, slightly different methods will be used for dry and wet craters.

a. Dry Craters

Trample down all loose earth inside the crater.

Start filling the crater with all the loose soil available. As soon as the depth has been sufficiently reduced, a tracked vehicle

should be driven across the crater to consolidate the soil, and this procedure repeated at intervals. Where brushwood is available, alternate layers of brushwood and soil should be laid. The brushwood will help to consolidate the soil, and at the same time distribute the load. Any rock, stone, or gravel thrown up by the explosion should be saved, and used later in making the road surface.

Continue filling until the depth of the crater has been reduced to 3 feet. As a rule, any filled-in craters of this depth will be passable for tracked vehicles, $\frac{3}{4}$ -ton trucks, and even $1\frac{1}{2}$ -ton trucks.

If it is essential to make a passage for all military vehicles, cut ramps on opposite sides of the crater, and shovel the soil from these two cuts into the crater. If each ramp is cut 10 feet long, enough soil will be made available to reduce the depth of the average crater so that it will be passable for all vehicles.

The surfacing of a filled-in crater should be completed before any but the most essential vehicles are permitted to cross, unless the crater is completely dry and likely to remain so. Otherwise, vehicles crossing over will churn up the soil and soon render further crossing impossible. The surfacing should consist of the stones and gravel which have been reserved for this purpose or of fascines [brushwood bundles]. A maintenance party will be needed to look after the surface until an engineer repair party can take over.

The following table may be used as a guide to indicate the time and labor required for crater filling. If a party of 20 men, equipped with picks, shovels, and axes, go to work on a dry crater 25 feet in diameter and 7 feet deep, in medium soil, they can make it passable for

tracked vehicles.....	in 30 minutes
"4 x 4" (all-wheel-drive) trucks....	in 35 minutes
$\frac{3}{4}$ -ton trucks.....	in 40 minutes
all vehicles except buses.....	in 75 minutes
all vehicles	in three hours

b. Wet Craters

If a crater contains water, a modification of the above procedure will be necessary.

If rocks and stones are available, use them to fill the crater up to water level. If there are no rocks or stones at hand, fill the crater bottom with earth. Cover this with two layers of empty sandbags to form a seal. Lay 9 inches of brushwood, and then 9 inches of earth. Repeat this sequence of empty sandbags, brushwood, and earth until the depth of the crater has been reduced to 3 feet. Layers should be laid so that they slope upward toward the center of the road to allow for consolidation of the center.

After this, follow the procedure outlined for filling a dry crater.

Water-filled craters naturally take slightly longer to improve than dry craters.

3. OTHER ROAD OBSTACLES

Hastily contrived road obstacles—such as farm wagons, the wheels of which have been removed, or felled trees—will often be fairly easy to destroy or move. However, it should be taken for granted that they will be liberally bobby-trapped. There will seldom be enough time to wait for skilled engineer personnel to locate and neutralize these traps. Therefore, the first troops to arrive on the site will find it necessary to set off the traps by using hand grenades or by tying ropes to the obstacle and, from a safe distance, hauling it off the road. It must also be remembered that antitank mines will probably have been laid in the road underneath the obstacle; for this reason, an extremely careful examination of the road surface is a necessity.

Finally, it is strongly emphasized that if any possible detour exists, it is normally much quicker to go around an obstacle than to remove it. It must be expected that detours or obvious turn-outs will be imaginatively mined and booby-trapped.

Section II. BRITISH JUNIOR OFFICER TELLS COMBAT EXPERIENCES

1. INTRODUCTION

The following letter from a British platoon commander in North Africa to one of his friends in an officers school in England discusses German and British tactics, and makes a number of valuable suggestions. It is reprinted here for the information of American junior officers who may face similar combat problems.

2. "TIPS FROM THE FRONT"

DEAR TOM:

You asked in your letter for a few "tips from the front." Here they are.

In attack, get your platoon going on location of fire, observation, and intelligent use of all available information. Our initial tendency (and it wasn't altogether the platoon commander's fault) was to rush into the attack without a really thorough reconnaissance, and without going over with the noncoms every bit of information we had about the enemy's positions. Once you're in it, it's hell's own game trying to see where the bullets are coming from, unless you have a fair idea where the swine ought to be. Even then, it's not so easy.

We have lost a lot of officers through platoon commanders being too eager and moving right up with their leading squad.

You can fight your platoon a darned sight better by staying in a position from which you can maneuver your reserve (that is, your two rear squads) when you have seen what fire is drawn by the leading squad. The same applies to company commanders, of course. Practice lots of frontal attacks. Boche positions are so invariably mutually supporting that platoon flanking attacks are damned hard, especially as the bloke you are after is probably supported by medium machine-gun fire from somewhere out of range of your light machine gun.

Approach marches are important. You nearly always have several miles to cover, probably in the dark, before you reach the place from which the attack starts. The condition in which your men reach that assembly area is going to make a whole lot of difference in their performance when the big moment comes. If the march has been a scramble, and if they are rushed into the attack as soon as they arrive, morale will be low. If the march has been orderly, with plenty of time to check up on everything and rest the men at the assembly area, they will start off confident and be much more likely to do a good job.

Defense took rather a back seat at home—we were supposed to be “assault troops”—but, assault troops or not, most of your time will be spent in defense, because whenever you are not actually attacking, you have to be in a position to defend yourself. So it is well worth studying. However huge an area of country you are given, in placing your troops imagine that you have only three-quarters of your platoons. Put your spare quarter aside as a mobile reserve; then forget all the books and put the rest wherever your own common sense and your knowledge of Boche habits tells you. Whenever possible, you want to be on reverse slopes—any movement on forward slopes brings the shells down, and it is not easy to stay still all day. If the ground forces you to take up forward slope positions, keep the absolute minimum at battle posts to observe, and the rest in cover until you are attacked. It is then that your fire control comes in. The first time, unless you have been warning your men daily, everyone will blaze off at any range at the first Boche

to appear, giving all your positions away. It is much more satisfying to let the Jerries come up a bit, and then catch them wholesale on some open stretch. If by chance they knock out one of your posts and start getting in among you, you can thank God for the quarter you kept in reserve and start your counterattack straight away. If you have got a counterattack properly rehearsed with supporting fire, and so on, for each of your posts, you should be able to get it in almost as soon as they arrive, or, better still, get them in a flank as they advance.

In defense by night, the squad sentry should man the Bren in the same trench with the squad leader. The squad leader has his Tommy gun, a couple of grenades, and a Very pistol with plenty of cartridges, and is ready for anything. If a Boche patrol attacks, they will let off lashings of automatic fire at random, to draw yours, and when they retire, it will be under cover of mortars. The answer is, stay still and hold your fire until you can pick a certain target. At Djebel Abiod we were attacked by a patrol some fifteen strong. They fired literally thousands of rounds without causing a casualty. We fired about twenty rounds, and killed an officer and two enlisted men. I don't think it's worth chasing a retiring patrol—they want you to leave your trenches, so as to catch you with their mortars. Instead, you can sometimes guess their line of retreat and chase them with your own mortar fire.

The best patrolling troops we have come across are the Moroccan Goums, whose success as compared with any European unit is phenomenal. Even against the best of the Germans, they never fail. Why are they better than we are? First, because they are wild hillmen and have been trained as warriors from birth. Second, because the preparation of their patrols is done with such detailed thoroughness. No fighting patrol is sent out until its leaders have spent at least a day watching the actual post they are after, and reconnoitering exact routes and so forth. If the leaders are not satisfied at the end of the day, they will postpone sending out the patrol, and will devote another day to the preliminaries. Some of our men are a little too inclined to

think of a patrol at four or five in the afternoon, and send it out that same night. To be worth a damn, a fighting patrol must start off with an odds-on chance of two-to-one—not six-to-four or even money, but a good two-to-one bet. To make this possible, your information has got to be really good and up to date. As regards composition of fighting patrols, there is a wide divergence of opinion. In this battalion we go on the principle of maximum fire power with minimum manpower, and our patrols have usually consisted of an officer, a noncom, and nine men—in other words, an assault group consisting of an officer, three grenadiers, and three Tommy gunners, and a support group of a noncom and three Bren gunners. The type of reconnaissance patrol which has produced the best result is the one composed of an officer or sergeant and two men who go out at night, remain awake and observe all the next day, and return during the second night.

Slit trenches deserve a paragraph all to themselves. A few days after we landed, we spent literally a whole day at Tabarka being dive-bombed and machine-gunned from the air. This went on intermittently all the following week at Djebel Abiod, plus more than enough shelling. Since then, the men have dug slit trenches automatically, even if they arrive at a place soaking wet at three in the morning. Their trenches are a full 5 feet deep, too. Anyone will tell you tales of miraculous escapes due to slit trenches—shells landing a couple of feet away without hurting the bloke inside, and so on. I don't think you could ever shell our battalion out of a position—if only because we know we are safer in slit trenches than out of them.

Incidentally, machine-gunning from the air is perfectly bloody—worse than bombing or shelling. The accuracy of it is something I never imagined. An unopposed fighter can guarantee that he'll hit a solitary car. But, on the other hand, if you have dug good slit trenches, you don't suffer casualties from this type of attack, and you find that, after all, the noise was the worst part of it.

The Boche does much more air reconnaissance than we do. Every morning "Gert and Daisy" take a look at us, and if camouflage is bad, I suppose a photo of our positions goes into the album. You can almost tell how long a unit has been out here by looking at its camouflage.

It is worth learning something about antitank mines. There are usually plenty to be had, and if all your men can lay them, you are ready for the enemy's tanks almost as soon as you get into a new position. If you're lazy and wait for the Royal Engineers to lay them, you may never be ready! All our men carry Hawkins antitank grenade-mines.

Somebody once said, "Warfare consists of boredom punctuated by occasional moments of excitement." This is absolute rot! When you're living out in shocking weather, with nothing but a gas cape over your head and with thirty men expecting you to okay their letters for censorship, dish out NAAFI (Navy, Army, and Air Force Institutes) stuff, make the best of the rations, and get them gear from the "Q," there's too much to do to get bored. When you, in turn, have got to see that "they are always ready to fight, that they are in good heart, that they are clean and healthy, and that the noncoms are doing their jobs, you may get fed up but never bored. Discipline is the hardest and most important thing to keep going. You and the noncoms spend 24 hours a day with the men, and discipline is almost certain to slacken if you're not on your guard. I find that the best way is to keep a strict routine, however rotten the conditions. That is, I stipulate a definite timetable for everything which must be done daily. If you keep a firm hold on the men in these small day-to-day things, you'll find that you've got them under control when the trouble starts.

Finally, remember that "there are bad officers but no bad troops." This is horribly true. We have often seen it out here—second-rate men fighting magnificently because they were under a first-rate officer, and vice versa. It makes you realize the vital importance of your job. Motto—"It all depends on me."

Section III. DESCRIPTION OF BRITISH ANTIPERSONNEL SWITCH

1. INTRODUCTION

In Tunisia the Axis made liberal use of captured British antipersonnel switches. This switch is a device intended to be sunk in footpaths and trails. When pressure is put upon it and then released, a bullet is projected upward. The following notes on the weapon are reproduced from a British Army training pamphlet.

2. DESCRIPTION

The switch (see fig. 19) consists of a hollow metal spike (1) with a flange at the open end. The spike can be pressed into the ground or hammered with care into a road. Inside the spike is the firing assembly, consisting of a metal spindle (2) with a flange at the base and a wire umbrella catch toward the top. A spring (3) and a spring retaining sleeve (4) are threaded over the spindle and are held in compression by the umbrella catch. A striker with a hollow shaft (5) is placed over the top of the spindle. Resting on the striker is a rimless cartridge with a bullet (6), which projects slightly above the spike.

3. OPERATION

When a man's foot (or a tire) depresses the bullet, the striker moves down and releases the umbrella catch. The striker then

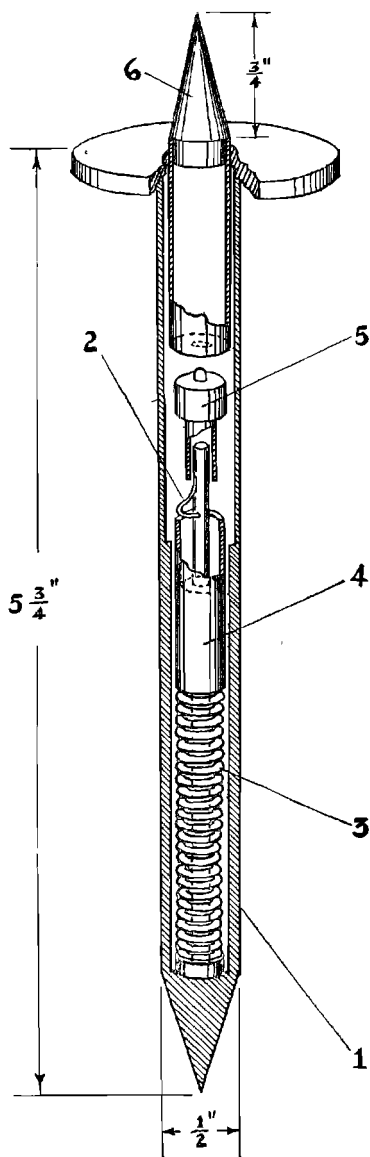


Figure 19.—Switch (British antipersonnel).

drives up under the influence of the spring, striking the cartridge cap and firing the bullet, which goes through the man's foot (or the tire).

4. ASSEMBLY AND TESTING

The switches will normally be issued in boxes of 50, with the cartridges packed separately. The firing mechanism, which is inserted in the hollow spike, is kept in position by means of a cork.

Should the mechanism not be loaded, place the sleeve—with the rounded end in contact with the spring and the faced end toward the striker—over the spindle, and depress until the catch engages. If difficulty is experienced in getting the catch to hold, it should be pried open a little further with a small screw driver. The striker can then be placed on the spindle.

To test the mechanism, push a pencil down the spike.

Never use the cartridge for testing!

5. CONCEALMENT

When the switch has been sunk into the ground, its protruding point may be concealed with a handful of dirt, sand, mud, a few leaves, or whatever blends best with the locality. A shallow water-filled pothole in a road is an excellent site, provided that the bullet's nose is beneath the surface of the water. In this case, however, the switch quickly rusts and becomes inoperative.

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